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Editor’s Preface

The third number of *The New Educational Review* in 2013 is the thirty third issue of our journal since the start of its foundation in 2003. In this issue there are mainly papers from: China, the Czech Republic, Korea, Malaya, Poland, Serbia, the Slovak Republic, Spain, Turkey, and Ukraine, because our journal is open for presentation of scientific papers from all over the world.

In the present issue the Editors’ Board have proposed the following subject sessions: Social Pedagogy, Didactics, Pedeutology, Special Pedagogy, and Review.

The subject session “Social Pedagogy” consists of eight articles. Monika Zimermannová in her article describes a cooperation between children and seniors and its impact on the quality of life in residential care conditions. The paper by Justyna Siemonow is a report on the pilot research on socially maladjusted boys, which led to the development of a questionnaire to test their thinking and designate its factors. The study presented by Irena Przybylska was carried out in 3 infant schools in Silesia (Poland) in 2012 with an objective to find out whether parents’ emotional intelligence modifies their children’s adaptation to infant school. The paper by Joanna Augustyniak focuses on the analysis of the inclusion of multi- and intercultural education in the modern grammar school curriculum in the schools of Koszalin (Poland) as an example of public institutions in the cities of one culture. A theoretical framework for the development of community sense is characterized by Jan Sebastian Novotný. The aim of the survey carried out by Jan Lašek and Irena Loudová was to find out what attitudes young people aged twelve to seventeen maintain towards adult civic qualities and virtues as compared with their demands for changes in civic behaviour. Responsibility in the hierarchy of values of the Polish youth with hearing impairment has been described by Małgorzata Zaborniak-Sobczak. The study by Saemah Rahman and Zakri Abdullah aims to identify the levels of meta-behavioural skills among students from the categories of students without problem behaviour and students with problem behaviour. The aim of the qualitative research conducted by Wojciech Świątkiewicz and Sylwia
Wacławik was to establish personal definitions of the situation of childlessness in marriage applied by persons aged 50 and older.

In the subject session “Didactics” we publish nine articles. The aim of the paper by Stanko Cvjeticanin is to determine whether there is a difference in student knowledge at all cognitive levels when a content about physical-chemical properties of matter are taught with the use of demonstration and student experiments in the third grade of primary school. Vera Herceg Mandić and Andelija Ivkov-Džigurski present the comparison of the Problem-Based Learning with traditional learning in the teaching of geography in high school. The paper by Kateřina Juklová examines the styles and approaches to learning in contemporary higher education students. The research presented by Vasiliki Kokologiannaki and Konstantinos Ravanis concerns 11-year-old Greek students’ mental representations of the mechanisms of vision in conditions of natural and artificial light, as well as the persistence of those representations in terms of the two different states of lighting and the expression form of the provided answers. The main goal of the article by Milan Obrić, Rajko Pećanac and Tomaž Bratina is to indicate the possible use of a specific model of e-learning for computer science teachers in Serbia. Kate Tzu-Ching Chen and Dominique Ying-Chih Liao examine the use of dramatic/theatre presentation for teaching oral skills to 37 Taiwanese EFL undergraduate students, with the main goal to determine whether such strategies and performance experiences positively support oral skills in terms of motivation and achievement. In his article, Marcin Musioł reveals diagnostic research findings which concern the use of ICT in home-work completion. The objective of the study by Carlos Castaño Garrido and Urtza Garay Ruiz is to analyse the results of an educational intervention with adolescent immigrant students, focusing on the degree of influence that the affective factor, attitude, school adaptation and the use of Web 2.0 tools, specifically video blogs, have an oral practice within the process of teaching-learning a second language. Małgorzata Cywińska describes interpersonal conflicts between children as difficult situations in teaching.

In the subject session “Pedeutology” we publish five articles. Krzysztof Rubacha and Mariola Chomczyńska-Rubacha present the results of empirical research that tested a hypothesis concerning the relationship between ethical orientations and teachers’ educational strategies. The study by Seung-Hwan Ham and his co-workers aims to explore how teachers’ use of instructional strategies to foster learner autonomy varies depending on principal instructional leadership. In the article by Serap Öz Aydin, a program of authentic learning-based teaching is designed to be used in the teaching of today’s environmental issues and an attempt is made to determine the effectiveness of such teaching. The research by Soheila Ahmadi and...
Farid Ahmadi aims to explore the level of teachers’ organizational commitment and organizational citizenship behaviour and the relationship between them. The paper by Rosnah Ishak and Saedah Siraj discusses teachers’ collective learning practices in order to build a culture of collective learning among teachers.

The subject session “Special Pedagogy” consists of an article by Karin Bakracevic Vukman, Tamara Funcic Masic and Majda Schmidt, in which they examine the differences between students with special educational needs and other students in vocational and technical schools in different areas of self-regulation: learning motivation, cognitive and metacognitive strategies and emotional regulation in learning.

In the subject session “Chronicle” Ryszard Borowicz and Agnieszka Uniewska describe the cultural and educational face of contemporary Asia in the context of the last conference entitled “Asia in the 21st Century: Challenges, Dilemmas, and Perspectives”, which was held in Poland in 2013 and a series of books entitled “Contemporary Asia”, published by Publishing House Adam Marszałek in Toruń.


We hope that this edition, like previous ones, will encourage new readers not only from the Middle European countries to participate in an open international discussion. On behalf of the Editors’ Board I would like to invite representatives of different pedagogical sub-disciplines and related sciences to publish their texts in *The New Educational Review*. 
Cooperation between Children and Seniors and Its Impact on the Quality of Life in Residential Care Conditions

Abstract

Cooperation between children’s homes and facilities for seniors may be considered the most humane way of integration of both social groups living in residential care conditions. Therefore, development of various socio-educational programmes is a challenge that should be taken note of by any children’s home and facility for seniors. Effectively filled time of children from children’s homes may have a preventive effect against possible socio-pathological phenomena or work as prevention against ageism and support of intergenerational relations.

Keywords: quality of life; senior’s personality; child’s personality; cooperation programme; subjective well-being.

Introduction

Children’s and adolescents’ quality of life is considerably influenced by the environment in which they grow up, i.e. their primary family environment. The problem, however, is that the current family is undergoing a crisis and the whole society as well. The author Ch. G. Vella (1999) speaks of three causes of this fact. The first one is individualism replacing the family. Society is an aggregation of individualists exercising their right to autonomy, personal fulfilment, sexual satisfaction and all this is above the family. Autonomy and rights have replaced ethics and morality. The second main cause is the relation between “interdependence” and “independence”. The family is determined by interdependence of its members. Notwithstanding,
today family coexistence is limited to the time of celebrations and holidays. The stability of the bond, clear roles within the family, identity and solidarity of the family are disappearing. The third cause is that we are becoming non-evaluating and moral assessment of behaviour is becoming a taboo. The right to assess has been given only to the media and newspaper front pages (in: Kravárová, M., 2010, p. 180). What is interesting is also the results of the research by L. Sejčová (2006, p. 93), who studied the view of the quality of life of adolescents. She states that adolescents in single-parent families are not exposed to a considerable extent to an inappropriate environment, arguments or conflicts between parents and thus their quality of life is comparable to the quality of life of adolescents from two-parent, functional families. This means that the adolescents from functional families and from single-parent families have a significantly higher quality of life than the adolescents from two-parent, but dysfunctional families. The research found that young people are mostly satisfied with the quality of their life; the most satisfied with the relational performance quality of life. With age, dissatisfaction with the social quality of life rises a bit and dissatisfaction with the material quality of life and environment grows. Currently, the concept quality of life is preferred in various areas. It is an interdisciplinary concept and it does not relate only to the old age and people of the post-productive age. Naturally, the quality of life of clients living in residential facilities is closely connected with the quality of the provided social services. However, the quality of social service is not defined in legislation. Notwithstanding, this concept started to be taken account of in relation to social services when the social services act was passed. According to O. Matoušek, J. Koláčková, P. Kodymová (2005, p. 189), the indicator of good care is clients’ (i.e. seniors’) satisfaction, their relatively good health measurable by a decrease in morbidity and mortality, lower consumption of medicines, health-care and social services. The presented paper focuses on co-operation between children from children’s homes and seniors from facilities for seniors, with the emphasis on raising the seniors’ quality of life. A child may be a “facilitator” at the last stage of a senior’s life. On the other hand, the senior may be the child’s “advisor” on the child’s journey of life.

1. **Methodological Basis of the Quantitative and Qualitative Research**

The major research problem was determined by means of three basic questions:

1. *What is the impact of the programme we have prepared for cooperation between clients of children’s homes and facilities for seniors on the seniors’ quality of life?*
2. Does the cooperation programme we have prepared impact on an increase in the frequency of seniors’ positive emotions and unemotional states in SEHP? 3. Does the cooperation programme we have prepared affect a decrease in the frequency of seniors’ negative emotions and unemotional states in SEHP?

The research sample consisted of children from a children’s home and seniors from a facility for seniors and a control group. The research sample of respondents from the children’s home consisted of 10 children. In this case, it was a convenient selection. During the research 3 children left for lack of interest. 7 children remained in the programme. To preserve anonymity, the facility is not identified. The youngest respondent was 6. The oldest one was 14. The average age was 9.71. The research sample consisted of 6 male respondents and one female respondent. Three respondents were of a Romany origin. Respondents 1, 2 and 7 were siblings. Respondents 3 and 4 were also siblings. Four respondents attended elementary school. Two respondents attended special elementary school. One respondent attended a preschool facility. All the respondents had living biological parents. Respondents 1, 2 and 7 (siblings) had been living in the children’s home for the longest time, i.e. 3 years. The research sample of respondents from the facility for seniors (experimental group) consisted of 10 seniors. In this case, it was a convenient selection. During the research three seniors left – two for a lack of interest and one due to health problems. 7 seniors remained in the programme. To preserve anonymity, the facility is not identified. The average age of the respondents was 62.28 (dispersion 50 – 72 years). 6 respondents were female. One respondent was of the male gender. One of the respondents had elementary education. Three had completed apprentice training and three had secondary education. The female respondent 6 had been in the facility for seniors for the longest time, i.e. 11 years. The research sample of respondents from the facility for seniors (control group) consisted of 7 clients. It was a random selection. The only condition for the selection of this research sample related to the facility, i.e. the clients from the control group had to be from a facility for seniors. To preserve anonymity, the facility is not identified. The average age of the respondents was 72.57 (dispersion 60 – 90 years). 5 respondents were female. Two respondents were of the male gender. Four of the respondents from the facility for seniors had elementary education. One respondent had completed apprentice training. Two respondents had secondary education.

One of the key research methods applied in the study was the quasi-experiment. Another method was the structured interview. Also, two questionnaires were used: Slovak Index of the Quality of Life (Slovenský index kvality života SIKŽ) and the questionnaire of habitual subjective well-being (SEHP). To measure the
emotional component of the subjective well-being, the scale of habitual subjective well-being, SHSP by J. Džuko and C. Dalbert (1992) was used. The tool consists of two sub-scales (factors): 1. Frequency of positive emotions and unemotional states, FREQPOZ, including the following items: pleasure (3); physical vigour (5); joy (8); happiness (10). The other factor, i.e. frequency of negative emotions and unemotional states, FREQNEG, includes the following items: anger (1); feelings of guilt (2); shame (4); fear (6); pain (7); sorrow (9). The seniors answered by means of a 6-point scale: almost always; very often; often; sometimes; rarely; almost never (in: Balogová, B., 2005, p. 66). The SEHP questionnaire was filled in by each of the seniors individually (before and after application of the cooperation programme), to prevent wrong interpretation of individual questionnaire items. The results of the SIKŽ and SEHP questionnaires were processed using mathematical and statistical methods. The following were used to test the presented research hypotheses: calculation of arithmetic means; calculation of mean values – standard deviation; Programme R(r-project). In addition to the quantitative methods also methods of logical operations were used (analysis, synthesis, induction, deduction and comparison) for qualitative processing of the results of the research. The first research method used in the qualitative research was non-structured observation. The qualitative research methods included also case reports. The case reports of clients from the facility for seniors and those from the children’s home participating in the research were published in a thesis (Zimermanová, M., 2012). The cooperation programme was divided into three basic stages: Stage 1: Selection of residential facilities and interviewing children and seniors before introducing the cooperation programme. Stage 2: Cooperation programme introduction to the children from the children’s home and seniors from the facility for seniors (pre-test). Stage 3: Cooperation programme evaluation (post-tests). The cooperation programme implementation was based on the programme “Way to Emotional Maturity” (Cesta k emocionálnej zrelosti) (Matula, Š., 1999) and “Educational Programme for Formation of Relations among Children in Children’s Homes” (Výchovný program formovania vzťahov medzi deťmi v detských domovoch) (Lednická, J., 1999). Children from children’s homes should be properly presented the real world, to which also the elderly belong. That was why the programme for formation of relations among children in children’s homes was extended by formation of relations between children and seniors from the facility for seniors.
2. Interpretation and Analysis of Results of the Quantitative and Qualitative Research

The research data obtained with the use of the SIKŽ and SEHP questionnaires were evaluated only in relation to the formulated hypotheses. H1 was related to the Slovak Index of Quality of Life questionnaire (SIKŽ), H2 and H3 were related to the Habitual Subjective Well-being questionnaire (SEHP).

Hypothesis 1, whereby it was expected that following the application of the cooperation programme for clients of the facility for seniors and children’s home the quality of life of the seniors would increase, was not confirmed. Table 1 presents descriptive statistics showing the obtained values in the variable Quality of Life Strongly above Average, measured by the Slovak Index of Quality of Life questionnaire. The values are divided into the experimental and control group measured in the pre-test and post-test.

**Table 1:** Descriptive Statistics of the Variable Quality of Life Strongly above Average

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Standard error</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>7</td>
<td>49.14</td>
<td>18.26</td>
<td>6.90</td>
<td>14.00</td>
<td>72.00</td>
</tr>
<tr>
<td>Post-test</td>
<td>7</td>
<td>52.71</td>
<td>17.99</td>
<td>6.80</td>
<td>18.00</td>
<td>77.00</td>
</tr>
<tr>
<td><strong>CG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>7</td>
<td>49.86</td>
<td>6.62</td>
<td>2.50</td>
<td>40.00</td>
<td>60.00</td>
</tr>
<tr>
<td>Post-test</td>
<td>7</td>
<td>50.00</td>
<td>9.59</td>
<td>3.63</td>
<td>39.00</td>
<td>66.00</td>
</tr>
</tbody>
</table>

Source: Own research

**Table 2:** Results of the Paired t-Test for the Variable Quality of Life Strongly Above Average – Frequency of Positive Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>T-test value</th>
<th>Significance test p – value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EG</strong></td>
<td>-0.09</td>
<td>0.9345</td>
</tr>
<tr>
<td><strong>CG</strong></td>
<td>-2.21</td>
<td>0.0692</td>
</tr>
</tbody>
</table>

Source: Own research

Based on the results of the paired t-test shown in Table 2 it can be said that there is no statistically proved difference in the values of the Quality of Life Strongly above Average in the individual groups.
Table 3: Results of the Independent Samples t-Test for the Variable Quality of Life Strongly Above Average

<table>
<thead>
<tr>
<th></th>
<th>T-test value</th>
<th>Significance test p – value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>-0.1</td>
<td>0.925</td>
</tr>
<tr>
<td>Post-test</td>
<td>0.35</td>
<td>0.7307</td>
</tr>
</tbody>
</table>

Source: Own research

No statistically proved difference was found in the obtained values of the Quality of Life Strongly above Average between the compared groups, it was not found even after the application of the programme. However, it is important to mention in this connection that although the given hypothesis was not confirmed, the quality of life of the seniors after the implementation of the cooperation programme did not decline.

Hypothesis 2, whereby it was expected that the frequency of seniors’ positive emotions and unemotional states in SEHP would increase after application of the cooperation programme for clients of the facility for seniors and children’s home, was not confirmed.

Table 4 presents descriptive statistics showing the obtained values in the variable Frequency of Positive Emotions and Unemotional States measured by the questionnaire of the habitual subjective well-being (SEHP).

Table 4: Descriptive Statistics of the Variable Frequency of Positive Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Standard error</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG</td>
<td>Pre-test</td>
<td>7</td>
<td>3.67</td>
<td>1.11</td>
<td>0.42</td>
<td>2.30</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>7</td>
<td>3.61</td>
<td>0.80</td>
<td>0.30</td>
<td>2.00</td>
</tr>
<tr>
<td>CG</td>
<td>Pre-test</td>
<td>7</td>
<td>3.76</td>
<td>0.48</td>
<td>0.18</td>
<td>3.30</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>7</td>
<td>3.68</td>
<td>1.33</td>
<td>0.50</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Own research

Table 5: Results of the Paired t-Test for the Variable Frequency of Negative Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>T – test value</th>
<th>Significance test p – value</th>
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</thead>
<tbody>
<tr>
<td>EG</td>
<td>0.12</td>
<td>0.9053</td>
</tr>
<tr>
<td>CG</td>
<td>0.19</td>
<td>0.8579</td>
</tr>
</tbody>
</table>

Source: Own research
Based on the results presented in Table 5 it can be said that there was no statistically significant change in the obtained value of the frequency of positive emotions and unemotional states when compared before and after the programme application within the individual groups.

**Table 6: Results of the Independent Samples t-Test for the Variable Frequency of Positive Emotions and Unemotional States**

<table>
<thead>
<tr>
<th></th>
<th>T-test value</th>
<th>Significance test p – value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG</td>
<td>-0.19</td>
<td>0.8539</td>
</tr>
<tr>
<td>CG</td>
<td>-0.12</td>
<td>0.9051</td>
</tr>
</tbody>
</table>

Source: Own research

Based on the results of the independent samples t-test in Table 6 it can be stated that before the programme application the compared groups showed no statistically significant difference in the values of the frequency of positive emotions and unemotional states. However, it is important that the frequency of the seniors’ positive emotions and unemotional states in SEHP did not drop after the introduction of the cooperation programme. Other external untested variables possibly influencing the results of our research may include the adaptation strategy (constructive, substance abuse, defence, hostility and self-hatred), aspirations and expectations in life, how the seniors were placed in the facility (voluntarily or involuntarily), time factor, personality variables (personality of the programme implementer, personalities of the participants, gender, life experience, the seniors’ involution changes, age, health conditions of the clients, etc.). We are aware of the external variables; some of them can be influenced (i.e. time, place, respondents, etc.), but some cannot (i.e. age; health conditions, adaptation strategy type, etc.).

**Hypothesis 3, whereby it was expected that the seniors’ frequency of negative emotions and unemotional states in SEHP would drop after application of the cooperation programme for the clients of the facility for seniors and children’s home, was confirmed.**

Table 7 presents descriptive statistics showing the obtained values in the variable Frequency of Negative Emotions and Unemotional States measured by the questionnaire of the habitual subjective well-being (SEHP).
Table 7: Descriptive Statistics of the Variable Frequency of Negative Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Standard error</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG</td>
<td>Pre-test</td>
<td>7</td>
<td>2.47</td>
<td>0.54</td>
<td>1.70</td>
<td>3.20</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>7</td>
<td>2.41</td>
<td>0.39</td>
<td>2.00</td>
<td>2.80</td>
</tr>
<tr>
<td>CG</td>
<td>Pre-test</td>
<td>7</td>
<td>2.61</td>
<td>0.93</td>
<td>1.20</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>7</td>
<td>3.08</td>
<td>0.71</td>
<td>2.17</td>
<td>4.33</td>
</tr>
</tbody>
</table>

Source: Own research

Table 8: Results of the Paired T-test for the Variable Frequency of Negative Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>T - test value</th>
<th>Significance test p - value</th>
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</thead>
<tbody>
<tr>
<td>EG</td>
<td>-0.92</td>
<td>0.3952</td>
</tr>
<tr>
<td>CG</td>
<td>0.39</td>
<td>0.7123</td>
</tr>
</tbody>
</table>

Source: Own research

Based on the results presented in Table 8 it can be stated that there was no statistically significant change in the obtained value of the frequency of negative emotions and unemotional states when compared before and after the programme application in the individual groups.

Table 9: Results of the Independent Samples t-Test for the Variable Frequency of Negative Emotions and Unemotional States

<table>
<thead>
<tr>
<th></th>
<th>T - test value</th>
<th>Significance test p - value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG</td>
<td>-0.35</td>
<td>0.7307</td>
</tr>
<tr>
<td>CG</td>
<td>-2.19</td>
<td>0.0491</td>
</tr>
</tbody>
</table>

Source: Own research

The results in Table 9 confirmed the statistically proved difference of the test between the compared groups at the significance level of 0.05. The results confirmed Hypothesis 3 expecting differences in values between the control and the experimental groups after application of the test. The hypothesis confirmation is highly important as far as the improvement of seniors’ quality of life is concerned. During the cooperation programme implementation new research questions
emerged for further extended research, such as: *What is the quality of life of children from children's homes? What influence do seniors from a facility for seniors have on the quality of life of children from children's homes? How can children from children's homes influence prevention and/or elimination of psychosomatic diseases of clients from a facility for seniors?* Also due to the mentioned new research questions we recommend doing further extended research of qualitative nature. Its aim should be to study the influence of the elderly from a facility for seniors on the quality of life of children and adolescents from children's homes. Inspirational could be also qualitative research aimed at finding out whether cooperation between the elderly and the children from institutional care prevents or eliminates symptoms or effects of various psychosomatic diseases in clients from a facility for seniors. The following are the seniors' statements obtained in the structured interviews conducted during the last meeting (after the programme) and also in our individual interview with each respondent when filling in the SIKŽ and SEHP questionnaires (post-test). The seniors were asked the following questions: *How did you perceive the meetings with the children from the children's home? Which activity did you like best? Did the time of your meetings with the children suit you? Would you like the programme to continue?*

Respondent 1: *"I saw in the children that they were interested, that's what I liked best about them. I thought that they wouldn't want to do anything. And just on the contrary. I enjoyed also guiding them in a game. I treated them like my grandsons. They should be working with people just like us, so that we always have something on. The programme could continue."

Respondent 2: *"I perceived the whole programme as making our life in the facility for seniors more colourful. We have various activities here, but this was something different. Children from various schools come here occasionally, within the hobby group Skilful Hands. But we did not work with children from a children's home before. It was nice. The time of the meetings suited me, too. I think we could go on, but it would be good for the children to think about some matches that we could play with them, too."

Respondent 3: *"My most beautiful experience was the game of energizer (game with pegs). Then the children began to bicker on the floor. They were all in one tangle. I normally laugh very little. But I tell you, I was laughing out loud as never before. It was the strongest experience for me. I like watching children. I have none of my own. I don't know how to talk with them. But I like observing them. When I am sad, I like to recall..."
the children. What surprised me most was that the boy gave me his painting. It was nice. But the time of the meetings did not suit me very well. Meeting twice a month would do.”

Respondent 4: “I liked those little kids. They could even talk with us quite well. They were very nice. I liked the visit to the children’s home very much. I hadn’t been able to imagine how the children lived there. It was very interesting. Funny was the situation when we were playing cards and they were teaching us new games we did not know or had forgotten. Always, when the children left us, we all talked about them. I found these meetings interesting.”

Respondent 5: “I thought that children from a children’s home are tearful and sad. What I did not think at all was that they would be that smiling, nice, and dotty from time to time as children. They taught me to play cards. This could mean nothing to somebody, but I have no children. That is why I found these meetings precious and interesting, and I think that the others did, too. The time of our meetings suited me.”

Respondent 6 “The children were very clever. I liked it how they got involved in various activities with us. The meeting with them always passed very fast for me. I remember the smallest preschool boy the best. He was a very nice and cute little boy. I would like our programme to continue. The time of our meetings suited me. There are still many activities we could do with the children.”

Respondent 7: “It was a great change for us. It was something new, since we have little contact with children. The children were very nice. My best memories are of the boy whom I taught to make baskets. I can imagine more sporting activities for the children outside. Watching them would be enough for us. I can also imagine reading something nice to the children (fairy-tales, stories), they could recite to us or we could play theatre together. I find our meetings positive. We can go on with them.”

Before the application of the cooperation programme the children were asked the following questions in the structured interview: 1. When do you feel happy? 2. Have you been sad because of anything lately? 3. What has made you happy lately? 4. When did you last get angry with somebody (or something)? 5. Have you been afraid of anything lately? What has made you laugh lately? The questions were drafted on the basis of the questionnaire of the habitual subjective well-being (SEHP) adapted for our purposes. The clients were asked 3 questions to express positive emotions and unemotional states and 3 questions to express negative emotions and unemotional states. The results of the interview are a part of the
case reports of the children’s home clients and briefly supplement individual characteristics of the children – clients. To preserve anonymity, the case reports are not presented. They are presented in our paper (in: Zimermanová, M., 2012).

The children’s comments on the course of the cooperation programme: After the application of the cooperation programme the whole group of seven children was asked the following questions within the structured interview:

“What game did you like best? What did you not like in our meetings? Would you like the programme to continue? What would you like to do with the seniors in another programme?” The children enjoyed making baskets; the game of energizer, the game letter to letter and also painting figures from salt dough. All the children clearly agreed that the time of the meetings did not always suit them (i.e. we were at the children’s home at 9:00 a.m.). They said that at weekends (that was the time of our meetings) they liked to sleep longer. Notwithstanding, all the children said that they would like the programme to continue. They spontaneously said that the male respondent 1 and the female respondent 7 were the nicest in the programme. The male role model in the child care at a children’s home is of great importance for the child’s personality development, which is why we believe that the boys’ liking of respondent 1 (senior) was well-founded. None of the seniors was found unsympathetic. The children contemplated various sporting activities in another programme, which even the seniors would manage. They suggested walks in the park, a picnic, etc.

3. Conclusions and Recommendations for Practice

Our recommendations for practice concern both facilities, i.e. children’s homes and facilities for seniors, as well as proposals for development of cooperation programmes within children’s homes and seniors’ facilities. Co-operation of any kind must be based on inner beliefs and full involvement of both residential facilities. Thus, the cooperation between both residential facilities should be naturally based on interlinked common plans of both facilities management. Development of an effective cooperation programme for clients of a children’s home and a facility for seniors requires a comprehensive knowledge of the facilities as well as the clients and/or the groups to be worked with. Educational diagnostics may be helpful in the situation. What we consider important is targeted action of the developed programme on all the components of personality (i.e. the cognitive, emotional, vegetative-reflexive ones), while taking clients’ individual specifics (or needs for special education) into account. Therefore, the clients’ cooperation programme should be preceded by various hobby or cultural and social events with the aim for
the clients to get to know one another. Social bindings, forming a good foundation for further, whether official or informal, cooperation between both facilities, can be established between clients of both facilities also by means of various intervention programmes including also the cooperation programme with its individual sub-programmes. If the programme for clients is aimed at the development of their personalities, then the programme should have not only social, but also educational character. It is necessary to emphasise the requirement for education in seniors’ facilities, which should be treated in legislation. The current system of senior care in Slovakia, with its accent on social facilities, does not seem to take the education of seniors in account. There are various reasons. According to C. Határ (2008, pp. 45–46) the cause may be found not only in the legislation, but also in the absence of finance, spaces, personal interest of some employees, but especially of appropriate staff (i.e. social andragogue) that should be in charge only of providing for residential educational care for seniors. When conducting various training courses, it is suggested to form groups (cooperation) among clients who can help one another. Considering the life histories of clients in both facilities, the work with possible events requires a sensitive approach. It is necessary to pay attention to the work of social workers in both facilities, who should initiate the cooperation. However, here it is necessary to mention and emphasize again the work of the profession of social andragogue, not treated in legislation, who would be most helpful and adequately qualified in connection with addressing the issues raised. Implementation of cooperation programmes in children’s homes could be facilitated in particular by the tutor, special or therapeutical pedagogue or social pedagogue, who is perceived as an expert not only in social issues, but also in educational ones resulting in the common concept of the socio-educational care in children’s homes. In cooperation programmes for clients from children’s homes and facilities for seniors it is very important to choose the right time suitting both groups. Seniors are accustomed to stereotypes, disturbing which may have an adverse effect on the cooperation programme. Children should take into account their school duties, various hobby groups attended, as well as their meetings with biological parents. Every group of seniors and children is different. Therefore, seeking mutual compromises and subsequent agreements is very important in the given case. The appropriate group dynamics requires that the group of seniors has about the same number of men and women. It is also better for the group of children to work with approximately the same number of boys and girls. In the programme implemented we faced the problem that the boys missed the grandfather role model since in the senior group women prevailed, and it was the boys who prevailed in the group of children. It is also important to alternate visits between children and
Cooperation between Children and Seniors

seniors. If working with a group of seniors who have no considerable problems with the supporting-motion system (or other more serious health problems), visits by children and seniors at facilities should alternate. Otherwise, it may happen that during the cooperation programme implementation a stereotype appears, adversely effecting the children's approach to the cooperation. The intensity of meetings is individual. It depends on the needs of clients in both facilities and their possibilities. However, the minimum cooperation programme should run at least twice to four times a month, while the visits of children and seniors should alternate. Activities should focus on various socio-educational programmes. Children-seniors cooperation programme implementation should be attended always by two employees: one children's home employee, i.e. a social worker, special pedagogue or therapeutical pedagogue (as required) or, in the prospective context, also a social pedagogue, and one seniors' facility employee, i.e. a social worker or ergotherapist, or, in the future, social andragogue. Each employee may adequately intervene in his/her group, in case of various situations that may occur during the cooperation programme implementation. The presented recommendations are not comprehensive due to the pilot introduction of the cooperation programme in practice.

The study is an output of the scientific research project VEGA SAV-MŠVVŠ SR No. 1/0024/12: Evaluation of the Impact of Education on the Quality of Life of Seniors in Residential Care Conditions.

References


The New Ways of Upbringing: Contemporary Trends in Social Rehabilitation. Searching for Effective Methods Influencing the Socially Maladjusted

Abstract

The paper is a report on the pilot research on socially maladjusted boys, which led to the development of a questionnaire to test their thinking and designate its factors. The starting point of the proposal is the theory of G. D. Walters and his thesis for the criminal mind. A similar project has not been conducted in Poland so far, it is an innovative test, completely adapted to the circumstances and cultural characteristics of minors in Poland. The article shows the importance of this project for working with minors and the possibility of changes that can be achieved in this way.

Introduction

Rehabilitation is a process of changes in the area of human personality. The main pillars of this process include: child care, therapy and education. The overall objective of this process is to eliminate or reduce the manifestations of social maladjustment in people to whom it is addressed. The reintegration process is very complex, and its effect depends on many factors. This rehabilitation may apply to adults and minors whose susceptibility to positive changes is assessed above. Educational activities conducted in a group of socially maladjusted minors whose personality formation process has not yet been completed have a chance to bring a more durable and faster change. Therefore, theoretically speaking, the rehabilitation of minors should be a process easier and faster than that of adults and should bring more durable change (Machel, 2003, p. 20). Practice, however, shows that the
dynamics of the phenomenon of criminality among minors requires the adaptation of methods and forms of work to the style of functioning of the person under court protection. Changes in education must follow the modern man, including these socially maladjusted.

**The main point of the project**

The fundamental aim of this research in addition to the study of criminal thinking styles in socially maladjusted juvenile offenders, who violate legal norms, is an explication of the degree to which typical elements of this thinking, mainly concerned with the offenders themselves, other people and the reality around them, predispose young people to re-offend. A significant objective of the research, at the heart of which lies the assumption that a permanent change in behavior must be preceded by a cognitive change, is indicating a possible change in juvenile thinking and thus increasing the effectiveness of the work undertaken as part of the rehabilitation process. Glenn Walters claims that crime is committed as a result of an individual taking a decision in a certain context, with the decision being moderated by the individual’s cognitive system as well as the environmental conditions in which the individual happens to find him/herself. An individual’s cognitive system, his/her thinking style, and the reception and interpretation of information emanating from his/her surroundings form the basis of human behavior (Walters, 2003).

Juvenile delinquency is a very complex phenomenon, not only given its dynamics and structure, but mainly because of the factors which predispose towards criminal behavior. Despite a substantial accumulation of knowledge on the functioning of an individual in their environment and their development with regard to aggravating and mitigating factors, an effective juvenile rehabilitation model in the field of Polish pedagogy has not yet been developed.

Greater individualism in corrective work and a more open attitude towards a socially derailed individual have proven to be, as it turns out, insufficient. As discussed in this article, the thesis points to a very important aspect of the functioning of a criminal individual, their thinking and the factors on which the thinking depends. Moreover, an identification of the key elements of a juvenile delinquent’s cognitive system will allow for their modification and appropriate planning of the rehabilitation work, which, combined with behavioral methods employed in corrective institutions, will create greater potential for the desired change in the functioning of the juveniles and, as such, contribute to the appropriate fulfilment of the social roles assigned to them after their return to their own environment and society.
It is well known that only a small percentage of the juveniles’ family environments undergo a positive change, it is rather the juveniles themselves who, having undergone various degrees of the rehabilitation process, can introduce changes in their behavior. Therefore, a cognitive change or a correction in the way of thinking will, as a permanent change, increase the chance for behavior in line with the accepted norms and social rules, with the juvenile, having returned to their own environment, interpreting the information they receive in a different manner and being able to select accordingly, and not so defensively, with their level of understanding certainly improved. Any change in behavior must be preceded by a cognitive change.

Clients regularly visit their family homes during holiday time, according to the school calendar (each visit requires the court’s permission). Therefore, to a certain degree, the juveniles’ functioning and desired change can be verified in an open environment, throughout a 2-3-week period in the case of winter or spring holidays and a nearly 2-month period during the summer.

A clear tendency has been observed for many years now indicating a permanently high level of violent crime involving minors and juveniles, and the lowering of the legal age of criminal liability has not improved the situation but has, in turn, created another problem: namely that of how minors, who potentially have a greater chance of returning to society than adult criminals, should be treated and rehabilitated effectively. What is very important for the project in question is the fact that for several years the period in which minors wait to be placed in a corrective institution, such as an MOW (Młodzieżowy Ośrodek Wychowawczy – Juvenile Education Centre) has been reduced, which has consequently shortened the time in which the rehabilitation process and the work with a particular minor can proceed. At present, a minor is sent to an institution after 2-3 months, after the court issues its decision to place such an individual in an MOW. In the past, however, this period could have been as long as three years. The average length of time a minor spends in an institution is 18–20 months (2 school years). This seems sufficient to effectuate changes in the young person’s way of thinking, but it is necessary to work out a specific action model, as well as forms and methods of work.

The primary aim of the project under discussion is therefore to specify and indicate factors typical of the thinking of socially maladjusted juveniles as well as to conduct research into the relationship in which the factors selected remain connected, thereby creating a certain style of criminal thinking, as well as to name the style of thinking which predisposes an individual to commit a crime.
Assume the following hypothesis:

Socially maladjusted juveniles present certain (dysfunctional) thinking patterns about themselves, the world and other people with whom they engage in social interaction. The criminal thinking style remains in a direct relationship with the negative or unhealthy behavior undertaken by a particular individual.

The importance of the indicated way of working – how the approach to the socially maladjusted changes:

Firstly, the implementation of this project seems indispensable for the potential of rehabilitation institutions such as MOWs (open institutions) to be used to its full capacity. Currently, such institutions, under the care of the Polish Ministry of Education, seem to have fallen into an effectiveness trap, i.e., they are urgently seeking effective methods and forms of rehabilitation which will make them stand out from the other institutions of this kind, of which there are over 70 in the whole of Poland (the weight of the problem therefore being quite substantial, given the scale of the phenomenon). At the same time, they are dealing with the economics of this problem, counting the costs of each juvenile’s upkeep and the expenses which have to be incurred to obtain the desired effect. It is also important to standardise the notion of effect and effectiveness in the rehabilitation process, as it should not certainly be measured solely by whether a juvenile, having left an institution, returns to crime or not.

Secondly: an analysis of the patterns, styles and elements of criminal thinking will allow for the factors which shape this kind of thinking to be indicated, thus revealing the way in which socially maladjusted minors perceive themselves, the reality around them and the people with whom they interact in a variety of ways. This will, in turn, form a significant pool of information vital for planning rehabilitation work, whether with an individual, subjective or collective approach in mind.

Thirdly: The ongoing change in Polish society connected with the processes of globalisation and the growing level of public space privatisation and the greater economic, cultural and educational challenges for particular individuals who would rather opt to remain in a certain (privileged) area, has resulted in a growing number of ‘excluded’ individuals, focused around a shortage of work, means of support or a lack of education. The group of socially maladjusted minors constitutes a high-risk community which may become (for the reasons already mentioned) banished to the fringes of society to form an enclave, destructive both to themselves and other social groups. For this reason, equipping maladjusted individuals with certain skills, developed through adaptive and creative thinking,
gives them a chance to successfully return to society, fulfill the social roles assigned to them, and to function without violating law and order.

The current trends in research concerning the etiology of crime clearly indicate that the traditional one-dimensional static model which determines single isolated variables based on cause and effect is becoming a thing of the past. The majority of current research is conducted in a dynamic model style, of which Glenn Walters’s notion (Federal Correctional Institution Schuylkill, Pennsylvania) provides an example. The notion stipulates that criminality is a result of an interaction between three groups of variables: conditions, choice and the cognitive system. An individual’s cognitive system, i.e., criminal thinking has been shaped in such a way that it reinforces and justifies irresponsible behavior and violation of law and order, and this cognitive system (this type of thinking) serves defensive functions for the ‘ego’. Glenn Walters conducted research into the thinking styles of adult and juvenile criminals serving sentences in different US prisons and developed the Criminal Thinking Scales, which help in establishing a particular criminal’s thinking profile and in carrying out a specific rehabilitation prognosis.

It should be noted that it was S. Samenow and S. Yochelson (Yochelson and Samenow, 1977) who were in the vanguard of research into the cognitive schemata which determine criminal behavior, since they traced the roots of criminality to an individual’s thinking style and the way in which he/she reaches decisions.

In his monographic study “The criminal lifestyle. Patterns of criminal conduct,” G. Walters (1990) presented a number of theses concerning criminal thinking, distinguishing eight specific thinking styles in this kind of individual: mollification (depreciating one’s responsibility), cutting oneself off from responsibility, entitlement, power-orientation, sentimentality, super-optimism, cognitive indolence and lack of continuity and consistency of actions.

This type of research has not been conducted in Poland, neither on adult nor juvenile criminals, and for this reason it is innovatory in nature. Moreover, the research discussed goes beyond the notion proposed by G. Walters, the American proponent of this type of research and analysis. Namely, it will open an opportunity to introduce correction and transformation in the criminal thinking style to a more adaptive style, it will allow for the drafting of specific tasks in the individual rehabilitation process and, most importantly, will create a standardised tool adapted to the conditions of Polish culture and lifestyle in a rather homogeneous society (when compared to its American counterpart), and as such it will create an important tool for the diagnosis of criminal thinking as an element of the complementary rehabilitation diagnosis which serves as the starting point for the
entire rehabilitation process and which, when conducted properly, offers a good chance of achieving the desired effect and change in juvenile behavior.

The methodological model assumed in the project suggests a need for the duplication of research, both qualitative and quantitative. In the latter, each step complies with the principles of the so-called positivist philosophy which suggest the existence of the objective world (a fragment of reality), the study of which is possible only with the use of precisely constructed research tools. Items belonging to this objective world are therefore measured and correlations sought between them, and their discovery and description allow for the exertion of a more effective influence on social reality – for the research in question criminal thinking and its determinants. The other path – qualitative research – assumes the subjective nature of one’s own knowledge and cognition, which nevertheless constitute an important supplement to the quantitative path. The application of qualitative analysis allows for a thorough insight into the life concerns (life path) which have shaped the socially maladjusted juveniles’ way of thinking.

The next step, in line with the designated research procedure, consists in selecting an appropriate research method, as well as complementary techniques and research tools. The application of a two-fold research strategy, quantitative and qualitative, will allow for a comparison of the data collected with the aid of various methods such as triangulation. The data gathered will be collated and interpreted through a cross-section approach, but also with a focus on single interesting cases, which will allow for a chance to adopt a model approach towards criminal thinking styles. It will also aid the development of a project of rehabilitation work to indicate a number of possibilities for correction and change within those factors which shape a particular thinking style, leading to permanent change in the functioning of juveniles after they leave an institution and return to the family environment.

The first version of the model employed in the project contained pretest and retest, i.e., an analysis of the factors under discussion upon entering an institution, followed by an analysis conducted a year after an individual’s stay in a corrective institution. However, after the pilot research it was changed into a single test indicating the factors which determine the style of thinking, crossing out the clients is the main problem, so the research group is getting smaller and smaller. During their stay in the centre, the minors regularly participate in particular classes, assigned to them through an individual programme, with the workload understood as the implementation of previously planned rehabilitation activities. Besides, this research will focus on the analysis of the impact of the activities on the change in the thinking styles and central cognitive schemata, understood as the knowledge of oneself, the world around and other people.
The methods of collecting qualitative and quantitative data as planned for the application in the research in question:

A questionnaire, juvenile criminal thinking scale – the author’s own tool, devised and standardised on a sample of 900 minors (boys) aged 13 – 18 years. The first version of the questionnaire contained 72 entries, after standardisation for the final version it amounted to 56 entries.

**Extracts of four factors:**

I. a feeling of loneliness in matters of everyday life, basing its efficiency only on yourself (the accuracy – 0.71)

II. a lack of a sense of control over their lives, a lack of connection between the activity of its effectiveness (0.80)

III. denial based on what each person is in relation to the environment in which he/she lives, a lack of a cognitive analysis of the situation (0.83)

IV. place the responsibility on others, the location of the source of their successes and failures in an environment outside of themselves (0.70)

**What kind of measurable effects can be obtained by examining the thinking of juvenile offenders?**

Juvenile delinquency is a very complex phenomenon, not only due to its dynamics and structure, but mainly because of the factors predisposing individuals to display criminal behavior. Despite the substantial knowledge on the subject of an individual functioning in his/her environment, as well as development as regards aggravating and mitigating factors, Polish rehabilitation pedagogy has not yet developed an effective model of juvenile rehabilitation. Greater individualism in corrective work and a more open attitude towards socially derailed individuals have proved to be insufficient.

G. Walters’s notion indicates that criminality is the result of an interaction between three groups of variables: conditions, choice and the cognitive system, whereby the first two influence each other to form the third, i.e., the human cognitive system. A particular style of criminal thinking develops as a result of interaction between these two groups of variables in order to support and uphold a decision concerning the commission of a crime. The cognitive system of a maladjusted individual has been formed in such a way (as a result of destructive and aggravating experiences in early childhood, quite thoroughly described in the expert literature as the environmental conditioning of criminality and the deprivation of basic bio-psycho-social needs) that it reinforces and condones the irresponsibility of the individual’s actions, self-justification or the intrusion
of interpersonal behaviors. The research described will indicate a very important aspect of a criminal individual's functioning, his/her thinking and the factors which influence it. Additionally, the identification of key elements in the juvenile criminal's cognitive system will allow for their modification and appropriate planning of the rehabilitation procedures, which, when combined with behavioral methods applied in rehabilitation institutions, will create a better chance for the desired change in the functioning of juveniles. This will then contribute to better fulfilment of social roles when they return to their environment and society. It is an established fact that only a small percentage of the juveniles' family environment undergoes a positive change and it is rather the juveniles themselves who, having experienced various degrees of rehabilitation, are responsible for the change in their own behavior. The model of rehabilitation presupposes inclusion of the juvenile's family environment in the process, thus resulting in a number of changes reinforcing the effects of the juvenile's rehabilitation process. Practical experience, however, coupled with a lack of any coherent system of help for socially maladjusted children, shows that the changes in a juvenile's family environment to which he/she returns are, in fact, minimal.

All the more, a cognitive change and adjustment in the way of thinking, as a permanent change, will, after a juvenile's return, increase the chance of behavior which conforms to the accepted norms and rules of social functioning; a juvenile individual will be able to interpret the information he/she receives in a different manner, to select it appropriately and will not react to it in such a defensive way, with their level of understanding significantly improved. Any change in behavior must be preceded by a cognitive change.

References

Parents’ Socio-Emotional Competences and Children Adaptation to Infant School

Abstract

The presented study was carried out in 3 infant schools in Silesia in 2012 with an objective to find out whether parents’ emotional intelligence modifies their children’s adaptation to infant school. Social adjustment was verified in four aspects: emotional functioning, social relations with peers, relation and responsiveness to a teacher, self-reliance and meeting demands. Parents’ emotional intelligence was estimated with the use of an emotional intelligence questionnaire (KBiE). According to the statistic verification, parents’ socio-emotional competences and children’s adaptation are correlated: children whose parents declared emotionally intelligent behavior adapted to infant school better than those brought up by less emotionally intelligent parents.

Keywords: parents’ emotional intelligence, social adjustment to infant school, children social functioning.

In temporary science as well as meritocratic rhetoric, social adjustment is found as an ultimate aim of education and self-actualization. Social adjustment refers to a person’s ability to be included in the environment. In the process the aim is to maintain a balance between a person’s needs and surrounding demands (Klim-Klimaszewska, 2011, p. 37). The process of adaptation and re-adaptation is lifelong, but the first milestone seems to be the beginning of infant school. Every new situation creates a new context, expectations to which a person has to attune. The results suggest that even within early childhood maladaptive behavioral outcomes result
in subordinate positions in a group. Social adaptation is always associated with stratification as well as personal satisfaction.

**Social and emotional aspects of the adaptation process**

Adjustment comes hand in hand with certain abilities, knowledge or competences which in early childhood are settled in the parent-child relation, although hopefully they can be strengthened by the educational processes. Thus, childhood inequalities (e.g. health disparities, mental disorders, family background, etc.) may figure prominently in the ontogeny of social development and are either balanced or strengthened by environmental conditions. Maladaptive or adaptive performance refers to behavior reflecting difficult or well-adjusted accommodation to novel or challenging circumstances, for sure infant schools are the first adaptation challenge (Boyce et al., 2012, p. 17168).

One of the notions which should be embedded in the discourse of educational processes is emotional intelligence. In recent years, there has been an increased interest in the role of emotional intelligence for school, work and private life success. Indeed, some authors (Romasz et al., 2004) suggest that acquisition of basic skills is a prerequisite for further learning and development. Studies on emotional intelligence have shown its relevance to many aspects of life and the role it plays in the interactions and adjustments in daily life. Self-regulation plays an important role in the successful adaptation to preschool and school contexts as well as in later academic achievement. The relationship between executive control and academic achievement at school has been established in previous studies (e.g. Naunschwan-der et al., 2012, pp. 353–355).

The child’s social development should take place only in the context of environmental sustainability. The relationship of the child with his/her parents is overall bonds since they operate on many levels such as: emotional, social or economic. Specific standards of governing the behavior of its members, as well as roles and positions result in mutual expectations and requirements. How the family operates depends not only on financial and organizational conditions, but mainly on parental attitudes and the kind of emotional bonds between the family members (Jugowar, 2003, p. 20). Parenting style demonstrated by the emotional attitude towards the child and other members of the family, imposed behavior standards, attention to needs and responsiveness, communication styles or the way of delegating obligation have an impact on the family climate and conditions of upbringing. At the same time, parents’ behavior not only influences the child’s well-being, but
also are a kind of pattern to imitate. That is why emotional intelligence seems so important in the socio-emotional development of the child and determines further development. This is due to the mechanism of identification, which makes the family a reference group, one which reviews evaluation and standards of behavior (Piaget, Inhelder, 1993, p.35). Thus, adaptation to kindergarten is marked by the emotional and social situation of the family home. A close relationship imprinted with love, everyday contact, pleasant experiences (everyday rituals, playing) and difficult ones (diseases, tensions, quarrels), generate an emotional bond and model socio-emotional behavior. It is the capital for future satisfactory interpersonal relationships as well as adjusting to group standards. Emotional maturity evokes social adaptation and that is why the process of adapting to infant school circumstances is, first and foremost, emotional experience for both children and their parents. The new situation, disconnection from parents, and unknown people can evoke strong negative emotional feelings. In order to cope with it the child needs socio-emotional competences and a strong family background. Referring to J. Lubowiecka's (2000, p.43) studies, parents' tutorial as well as emotional maturity has a significant impact on the fast, positive adaptation of the small child to kindergarten. The problem of infant school adaptation, especially in the area of emotional functioning, is only slightly emphasized in educational research. It seems accepted that the stress connected with the beginning of infant school is inevitable.

What the process of adaptation will be like depends mainly on some innate cognitive- emotional and intellectual abilities. Instrumental performance, communication skills, self-awareness or abilities to satisfy one's own needs are modified by hitherto gained experience mainly in the family environment (Lubowiecka, 2000, p. 247). According to research (Klim-Klimaszewska, 2011, p. 37), the process of adaptation and its effects depend chiefly on the family, where from the very beginning the child is subjected to intentional and unintentional influences determining child development. That is why the family is supposed to provide not only proper care and meet biological needs, but mainly to endow with socio-emotional safety and constructive stimulation. Socio-emotional maturity is a prerequisite for the proper social functioning and self-development, not to mention joyful activity. Therefore, the child enters kindergarten already “shaped” with his/her own socio-emotional “baggage”.

One of the reasons for failure or difficulties in early adaptation to infant school is lack of emotional maturity. The reasons for the problems are manifold, but the most obvious seems to be parents’ low emotional intelligence. More and more often children starting pre-school education cannot find their way in their peer group, they are not able to interact within the group, are very dependent and unable
to focus attention or become quickly discouraged. These are mainly emotional competences (cf., Gruszczyk-Kołczynska, Zielińska, 1993, p. 54). A child going to infant school must assimilate a lot of different information from the environment, learn new standards of behavior, adjust to new socio-emotional reality. Parents who encourage children to behave in a mature way up to the age prepare them for the next stages of emotional development (Filipczuk, 1991, p. 181).

Even for emotionally grown up children a completely new situation is a challenge. Emotional tension, fear, uneasiness, stress in the condition of an unfamiliar situation can be natural reactions, but if the state prolongs it may result in a negative impact on the processes of adaptation and further development. Negative emotional experiences lower the efficiency of cognition and disturb psycho-motor activity. Children who have low self-confidence, are not supported by their parents, or are engulfed by overprotective parents go to kindergarten with reluctance, even hostility. Strong, positive emotional bonds, acceptance, neither neglect nor overprotection are parent attitudes which can be induced by parents’ emotional maturity (Lubowiecka, 2000, p. 246). Having considered the importance of emotional experiences in the process of adaptation, the presented survey was planned, whose methodology and short data interpretation will be presented in further parts of the article.

**Methodology**

While there have been a lot of assumptions about the usefulness of emotional intelligence in different areas of social functioning and life achievement (cf., Goleman, 1999), there is still a lack of empirical data in this regard. That is why the purpose of the presented study was to determine the extent of relationship between parents’ emotional intelligence and adjustment to the demands of infant schools. Hence, the research was undertaken with the following objectives:

1. to diagnose parents’ emotional intelligence and the level of adjustment to infant school;
2. to find out the relationship of parents’ emotional intelligence variables and their children infant school adaptation.

The main hypothesis was that the parents’ emotional intelligence correlates with the child’s adaptation to infant school. Emotionally intelligent parents are more apt to bring up more independent and emotionally mature children.

Two techniques were implemented in the survey: a questionnaire to assess emotional intelligence and directed observation of child behavior at infant school.
Parents were asked to fill in the Emotional Intelligence Questionnaire (KBiE), a tool prepared and verified by the author of the article (Przybylska, 2007). The questionnaire consists of 4 scales, which are intended so assess emotional intelligence in the following aspects: awareness of emotions, self-regulation, use of emotional knowledge and the interpersonal aspect of recognizing and following others’ emotions.

Social adaptation was ascertained with the use of a naturalistic behavioral observation method. Observations were conducted at the beginning of school year, during structured, semi-structured, and free play activities. Adaptation was operationally defined in four areas, which were converted in 4 scales in the observation sheet. Teachers were asked to observe their pupils’ behavior concerning their relation and responsiveness to the teacher, interactions with peers, emotional stability meant as expressing emotions and self-regulation in different situations (e.g. separation from parents, contact with adults and peers, reactions to demands) and a self-autonomy scale including both decision making or expressing one’s own opinions and self-service. The observation was scheduled for the very beginning of a new school year and referred only to children who started infant school for the first time (mostly three- and four-year-olds).

The surveyed group consisted of 80 children (71 children aged 3, 9 – aged 4) and one of their parents. It was impossible to question both parents as some of them were single or the other parent did not agree to take part in the survey. The survey was possible thanks to the courtesy of 3 infant schools in the Silesia district and also the agreement of the teachers and parents.

Research results

The relationships between the emotional competence of the parents and their children, and consequently the adaptation capabilities of the latter emerge apparent although there is little research into the relationships between parents’ emotional intelligence and children’s adaptive behavior. The presented study explores this relationship.

The study on the adaptation of three-year-old children to kindergarten shows that most of them have no significant problems with adaptation. They manage to cope with new rules and standards prevailing in the environment and self-service activities quite soon. In 31% of the cases (25 children), the adaptation process shuts down correctly at all levels: self-service, relationships with peers, relationships with adults, while parting with parents or while resting. These children, striving for
positive interactions with their peers, adhere to social norms, are able to cope in situations of conflict and stress. What is characteristic of this group is its emotional and social maturity appropriate to the age.

According to the teachers’ observation, the majority of the children adapt in a “normal” way: with some difficulties and successes. 40% (32 children) of them were assessed as rather well adapted. Based on observation, it can be concluded that they are able to interact in the peer group, establish positive relationships with both the teacher and peers. Moreover, they can satisfy their needs and meet all the requirements sufficiently. At the same time, the teachers pointed out that from time to time these children experienced mood swings, lack of appetite, were tearful, had problems when parting with their parent. These behaviors may indicate that the adaptation process proceeded correctly, but with some difficulty and had not yet been fully completed. At the same time, prognoses are promising. Unfortunately, this assumption cannot be referred to the following group of children.

Up to 23 children, representing 29% of those observed in the survey, posed numerous behavioral problems at the beginning of the school year. Their adaptation results were the lowest according to the teachers’ assessment. These children were characterized by inadequate adaptation at all the tested levels: self-service, relationships with peers, as well as relationships with adults, while parting with their parents and during rest. Insufficient adjustment was demonstrated mainly while relating to others: in the group the children could not cooperate, attempts at communication often ended with aggression or crying. That led to the teachers’ frequent intervention.

A child who does not adapt to kindergarten sufficiently has to overcome many difficult and complex tasks. The surveyed children tended to be nervous, often downright aggressive, or separate from the group, avoid communication. Self-service happened to be a problem in all the groups even that of the well-adapted; in the group referred to the problems were much more complex and multilayer. Having experienced adaptation problems, special attention and cooperation of teachers and parents is necessary. Nevertheless, it appears that it is easier to overcome self-service shortcomings even social ones than emotional difficulties.

As seen in the above scheme, the surveyed group of children is characterized by a normal level of adaptation to the conditions of kindergarten. The calculated mean of the results of adaptation observation was 121.94 points and the standard deviation from the mean was 21.90. It must be highlighted that a third of all the children experienced more or less serious problems with adaptation. The sources of difficulty in social adjustment, as elaborated in the previous part, are numerous and different. What is the most interesting problem for the author is whether
the parents’ emotional behavior influenced the social and emotional aspects of adaptation.

**Scheme 1.** Distribution curve of sten results of adaptation survey

![Graph showing distribution curve of sten results of adaptation survey](image)


The results of the observation of 80 children’s behavior were standardized (sten standards), the same was done with the emotional intelligence questionnaire responses. Summary of the outcomes reveals a correlation between the result obtained by a child and a parent almost in all dyads. The vast majority of the parents obtaining the highest scores in the emotional intelligence questionnaire have children who are observed as coping well or very well with new situations at infant school. At the same time, the children of the parents obtaining low scores in the study experienced more adaptation problems. The relationship between two variables is quite clear taking into consideration both the graphic representation and raw results. The calculated linear correlation Pearson coefficient suggests that the relationship is quite strong and it is $p = 0.40$ at 5 per cent level of significance. The correlation between the variables is linear. In the surveyed group, an increase in one variable is accompanied by the rise in the other, apart from a few cases (10 children and parents) where the children’s adaptation processes seem to be independent from the parents’ emotional capabilities.

A child can be deemed socially adapted if he/she can successfully cooperate with others and abide by social standards. According to the research data, the children one of whose parents is emotionally intelligent meet the standards of adaptation. In teacher observation, these children did not show significant, observable problems with social behavior. Relationships with their peers and adults or self-service operations were assessed by the teacher as very fluent or at least satisfactory. For the proper adaptation of the child to new surroundings, in this case to the infant
school, it is essential to have a clarified representation of “self” (socio-psychological needs) and “other people” (mental and social needs of other people). One of the basic conditions for taking action on behalf of others is a positive attitude towards oneself. Children of emotionally intelligent parents seem to function well both on the intrapersonal as interpersonal basis (cf., Scheme 2).

**Scheme 2.** Children’s adaptation and parents’ emotional intelligence

![Scheme 2](image)

Source: own research. Key: HEI- high EI; AEI-average EI; LEI-low EI. HA-high adaptation; AA- average adaptation; LA-low adaptation.

Considering the data from the above scheme, the children of the less emotionally apt parents were more often emotionally inadequate in social relations: too expressive or inhibited, passive, not responding to adults' requests or not prepared to cooperate when problems appeared. What was apparent in that group was that maladaptive behavior was more frequent and more serious in the teachers’ opinion.

As pointed out, in 10 cases the parents’ emotional intelligence did not appear to correlate with the children’s adaptation. All of these children encountered some problems with adaptation while their parents declared average or high emotional qualities. Explanation can vary. First of all, it seems that although emotional qualities of the home environment influence children's capabilities and competences there are other factors, such as parents’ character, temper, social and communication competences or parental attitudes towards children. Besides children’s potentials, needs and expectations differ, which can influence children’s social experiences. Therefore, multifactor research into the area is necessary as well as a bigger research
Parents’ Socio-Emotional Competences and Children Adaptation to Infant School

group. A diagnosis of the second parent or other qualities of home environment is assumed to be crucial, as well.

The results are contrary to, e.g., Sjoberg (2004) and Adeyemo (2005), who advocated that a person’s emotional intelligence was related fairly strongly to his/her social adjustment. Yet, it must be mentioned that the studies referred to concerned school adaptation.

Conclusion and discussion

It is a truism, supported by everyday observation and educational research, that family experiences are determining for further achievements. The success of relatively fast adaptation to infant school is dependent not only on stable conditions in the family environment (structure, organization, daily routine, meeting needs, etc.). In the instructions (more or less professional) for parents whose child is going to start the first year at kindergarten, it is emphasized that they should prepare the child to perform simple, daily activities such as dressing, undressing, eating alone or using the toilet (Lubowiecka, 2000, p. 247). Rarely is it indicated that teaching (modeling) proper emotional expression, controlling emotions, understanding others’ emotions, talking about feelings and needs is far more important than only self-service. The emotional atmosphere at home, kind of emotional bonds, but also temporary emotional communication concerning attendance of infant school, are emotional dimensions which play a crucial role in the process of adaptation to a new environment. Intelligent (competent) dealing with emotional information brings about adaptation to different emotional aspects of the environment (cf., Salovey, Mayer, 1990, p. 189). Being aware of emotional states, respecting and expressing emotions are essential for both well-being and social relations. They are core abilities which are induced by different stages of socio-emotional growth. Parents who behave in an emotionally mature way at the same time create safe and stimulating surroundings for their child’s development.

Emotional intelligence is an adaptive set of abilities. Even if parents are not aware of the fact they emotionally coach their children. Having considered personal growth of infants maturity, competence or intelligence, whatever we call emotional aptness (cf., Przybylska, 2007), is crucial for adaptation and well-being. Summing up, there seems to be a correlation between emotional intelligence of parents and their children’s adaptation to the first outer environment.

Certainly, there are pervasive links between socio-emotional competences and family emotional background, further between socio-emotional competences and
the adaptation process. In the reported research, the majority of the respondents had a normal to high level of emotional intelligence and their children presented average to excellent adjustment. Parents’ emotional intelligence had a significant positive relationship with social adjustment of their children. Emotional intelligence and social adjustment of children at the age of 3–4 were found to be significantly correlated (\(p=0.40\)) at the 5 per cent level of significance.

This study is only a stepping stone in the field of emotional intelligence. This aspect requires much more exploration as there is a deficiency of research in the area, especially in Poland. Undoubtedly, there is an urge to examine in detail the relationship between socio-emotional competences and adaptation processes at different stages of development.

The importance of the reported findings resides not in the statistical confirmation of the correlation, whose meaning is actually weakened by a small sample. Rather, the importance lies in educational implications – seeking for broader contexts of inter- and intrapersonal adaptation. Certainly, such results converge on common principles concerning key adaptation competences. In conclusion, hitherto obtained data may prove beneficial for educators, parents, counselors, etc. while preparing children for the beginning of a formal education.

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Intercultural Education in School Practice on the Example of the City of Koszalin

Abstract

Ongoing globalization, open borders, emigration and the increasing phenomenon of multiculturalism make it necessary to deal with the diversity of a pluralistic society. It has been extremely important to prepare children and young people to live in such a society, which is to shape their attitudes on the acceptance of cultural diversity, respect and tolerance for minorities or ethnic minorities, to help combat stereotypes, prejudice, racism and xenophobia. This task can be achieved through intercultural education. This article focuses on the analysis of the inclusion of multi- and intercultural education in the modern grammar school curriculum in the schools of Koszalin as an example of public institutions in the cities of one culture.

Keywords: intercultural education, grammar school in Poland, migration

Introduction

The dynamic development of the modern world, technological progress and globalization have resulted in significant and irreversible changes in the lifestyle of people around the world including Poland. As a member of the European Union since 2004, Poland has become a country of both immigration and emigration. The current number of immigrants in Poland has reached an estimated one million people. Officially, it is said that there are about 97 thousand legal immigrants in Poland at present, mainly from the countries of the Eastern bloc, however, the Office for Foreigners, on the basis of the information from the border patrols,
has estimated that another 50–70 thousand are the people staying illegally (the Office for Foreigners, 2012). Simultaneously, non-government organizations, on the occasion of World Refugee Day on 30th June 2011, estimated the number of immigrants without any documents at 40–400 thousand. Therefore, after taking different types of residence into consideration, the number of new immigrants may reach half a million. Together with the old national and ethnic minorities the number increases to a million. All fragmentary data indicate that there are more and more foreigners coming to Poland, especially those coming for economic purposes looking for a job or running their own businesses. There are also more and more foreign students (approximately 17,000 in 2010) and foreign children (A. Paszko, 2012). As a result of migration, Poland is slowly changing from the society of one culture to a multicultural one. This, in turn, means serious tasks for Polish school – to teach according to intercultural education. In other words, it should fulfil the aims and objectives of intercultural education, such as teaching the attitude of respect and tolerance towards the Other and the development of intercultural competence in contacts with people from other cultures as well as with those of Polish cultural background who live and think in a different way. (J. Nikitorowicz, 2010, pp. 27–35). For many years, large cities, such as Warsaw and border cities (Białystok, Cieszyn or others), have been pursuing the intercultural policy, creating integration programs for schools (PAJP Project, Project Towards Enriching Diversity, Youth in Action Project, Intercultural School in Multicultural Town, Refugee – My Friend and Neighbour, etc.), taking measures to make contact with the person of a different culture, striving for getting to know each other and thus understanding and accepting differences. However, in all the cases, the changes were, in a sense, forced by the position of a given territory. However, the cities where multiculturalism is not commonly seen often forgo this activity or treat it marginally, considering it irrelevant.

**Methodology**

As previously mentioned, the study has been conducted in order to analyse a state of intercultural education implementation in Polish schools on the example of the city of Koszalin. Koszalin is a city of slightly more than 100,000 inhabitants, marginally occupied by foreigners. It is located in the northern part of Poland, not bordering other countries or ethnic groups.

The primary objective of the study was to determine how to implement the goals and objectives of intercultural education in Polish schools on the example
of grammar schools in Koszalin. The choice of the city and the level of education were not coincidental. Koszalin, as already mentioned, is an example of a city whose location, politics or inhabiting groups do not enforce cross-cultural behavior, tolerance towards the Other or having intercultural competence directly. However, does this fact make these abilities unnecessary? Being a member of a large multinational group, such as the European Union, the progressive digitization and thus the development of communication and information systems, increased migration movements, from smaller cities such as Koszalin as well, oblige people to adapt to certain behaviors that promote respect for their own and foreign cultural norms, religion, customs and the way of thinking. Therefore, the lack of direct experience of cultural diversity does not exempt schools from including educational activities in this area. Moreover, the grammar school, level is the stage where both the core curriculum and school policy introduce information relating to civics, shaping attitudes of tolerance, responsibility, involvement in civic duties, social sensitivity, etc. It is in grammar school, the school, in which the aim of education is to introduce students to the world of scientific knowledge, to implement the sense independence, to help make important decisions and to prepare for the active participation in social life (M.Czerepaniak-Walczak, 2004:58), that special attention has to be paid to the existence of stereotypes, diversity and the necessity to build positive and satisfying relationships with Others.

The research was conducted in 2012 by means of the diagnostic poll method, which might present feedback relating to the implementation of multi – and intercultural education on lessons by grammar school teachers. The questionnaire technique was used to collect data. The survey was conducted among 60 teachers from 12 grammar schools in Koszalin. They were asked to complete a questionnaire in the form of 21 questions, including 12 half-open ones. In each question the teachers had the opportunity to add their own comments and observations connected with their own school practice.

Out of the group of 60 surveyed, 78% were women. Men were only 22% of those polled. The respondents participating in the survey were mainly aged 35–44 years (38%), but the differences between the other age ranges (26–34 and 45–54) were insignificant, therefore it can be considered that the group surveyed was mostly women aged 26–54. (cf., Graph 1)

The respondents who participated in the research were mainly experienced people whose period of work experience at school was more than 12 years (52%), another group consisted of teachers working 6–12 years in education (36%). Only 12% constituted young workers with fewer than five years of work experience (Graph 2).
Intercultural Education in School Practice on the Example of the City of Koszalin

Graph 1. The respondents’ age

Source: Own research

Graph 2. The period of work experience

Source: Own research

Therefore, the poll was carried out among experienced teachers, mostly women.

Results

As already mentioned, modern transformations of globalization result in numerous and challenging education tasks and, in a way, impose changes on schooling, because education should prepare people not only to benefit from the achievements of modern civilization, but also to actively participate in the process of its further existence and development. Meanwhile, according to R. Pachociński traditional school is not prepared to take the challenges of modern civilization. It responds to changes too slowly (R. Pachociński 2006, p.35). Hence, it is absolutely necessary to adapt modern education systems to new economic, social and cultural conditions.
This is possible, however, only with an appropriate level of preparation, as well as appropriate knowledge acquired all life. Nowadays, a person is not only a citizen of a state, but also a citizen of Europe and even a citizen of the world. The knowledge of one's own culture is just the beginning because it provides their own cultural identity and a sense of belonging and a lack of preparation for the contact with the Other/Foreign leads to intolerance because of the fear of otherness. Thus, there has been a difficult task for schools – opening to changes, because, according to Pachociński, *children have to prepare for life towards the future, although the school is closed in the past* (R.Pachociński 2006, p.83). Thus, contacts with diversity, difference, meeting with the Other/Foreign as a result of a “shrinking world” as well as the ease of contact with other cultures and sometimes the necessity of living in another culture or migrating, require from schools the preparation for life in a multicultural society. The answer to these needs is intercultural education, which *has to help, not only to “be near” but to get in contact – to integrate. Moreover – to integrate without explicit or hidden domination of one of the groups* (T. Lewowicki 2000, p.26). *It is the integration and dynamic socio-cultural changes of various social communities based on mutual rapprochement of their members that is the result of intercultural education* (P. Grzybowski 2005, p.39). When it comes to intercultural education, internal ethnic, racial and cultural differences of a given society which relate to different visions of the world and cultural concepts are respected and taken into account. It is education that recognizes and accepts the norms and values of everyone's life. It helps understand and teaches that people in different parts of the world have different attitudes to life, different customs and beliefs, and that this diversity enriches humanity. It promotes equality and human rights, triggers aversion to discrimination and promotes the values upon which equality is built (National Council for Curriculum and Assessment 2008, p.3). Despite the fact that education relates to the whole society, it is mainly focused on the system of relationships among children and youth, who are future citizens of the intercultural world. Education has been making a huge step towards integration and tolerance, preparing different people to cooperate and make use of heritage as well as helping maintain the identity of individuals and whole communities (T. Lewowicki 2000, p. 17). The general task of education is to build an intercultural society and culture by providing knowledge and teaching skills which are essential and helpful in resolving problems that arise from cultural diversity. This process is to take place on the basis of awareness, stimulating, encouraging, teaching, and showing appropriate attitudes, skills, needs, and consciousness associated with the perception of difference and social consequences of this fact. (P. Grzybowski 2005, pp.63–64). J. Nikitorowicz draws attention to three important issues related to intercultural
education. First and foremost, it takes education measures so that members of different cultures do not become prisoners of their own cultural conventions as homogeneous culture can be constraining. Intercultural education draws attention to values. It reminds that no one is a member of one isolated group, and that the process of creating one’s own identity is required to contact other groups. And finally, intercultural education refers to the concept of culture. Cultures transform and as a result of transformation of models and values – they develop. Therefore, each group should treat their own culture as a sign of distinction and difference, however, without creating cultural ghettos (J. Nikitorowicz 2010, pp.51–52).

Moreover, there is a large number of objectives of this education suggested by M.S. Szymanski. These include, among other things, being open to the world, communication on a global scale between people of different races, languages, religions, origins, traditions, lifestyles, involvement in aid of peace, equality, fraternity and solidarity in our own country and around the world, advocating for a just world without war, exploitation, oppression and hunger, awakening ecological awareness, getting rid of the sense of cultural superiority or the opposition to all forms of xenophobia, racism and hostility against minorities, etc. (MS Szymanski 1995, p.105). The range of goals means a hard job for those implementing intercultural education. Due to the interdisciplinary nature of issues and the above-mentioned objectives it can be implemented as a part of education and teaching every subject and at every level of education. So as to reinforce this process, a variety of projects that teach intercultural thinking and acting has been run.

Therefore, teachers of various subjects at the third stage of education took part in the research – first of all teachers of English, Polish and History. However, there were also Maths or Physics teachers. The data are presented in Table 1.

<table>
<thead>
<tr>
<th>Subject</th>
<th>number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>6</td>
<td>10.0</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8</td>
<td>13.3</td>
</tr>
<tr>
<td>Polish</td>
<td>8</td>
<td>13.3</td>
</tr>
<tr>
<td>German</td>
<td>6</td>
<td>10.0</td>
</tr>
<tr>
<td>Geography</td>
<td>5</td>
<td>8.3</td>
</tr>
<tr>
<td>History, Civics</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>English</td>
<td>11</td>
<td>18.6</td>
</tr>
<tr>
<td>Religious Education</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>Subject</td>
<td>number</td>
<td>%</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------</td>
<td>----</td>
</tr>
<tr>
<td>Art, Family Life Education</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>Physics</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>Information Technology</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Own research

The analysis of the collected empirical material indicates that the Koszalin school environment definitely relates to one culture. Only 21.6% of the respondents see the cultural diversity in their area, however only in relation to different religious beliefs. Nevertheless, 81.6% of them are or were in contact with someone from a different cultural background only during trips. Only 5.0% have met such people during international youth exchanges, such as Socrates-Comenius, organised by the school. What is more, the classrooms where the respondents teach relate to only one culture, since only 15% of students are culturally or ethnically different. However, each school, regardless of the stage of education and the level of diversity in the environment, is required to execute the core curriculum, which clearly indicates that the purpose of education at the grammar school level is: broadening students’ knowledge about the culture of their region and its relationships with national culture, making and maintaining contact with the local community to form close relationships and to understand different human backgrounds, or learning about the national cultural heritage from the perspective of European culture. Therefore, the role of school is to make students aware of the habits, customs and behaviours characteristic of the representatives of the culture in the area of a foreign language taught, developing the attitude connected with being curious, open and tolerant towards other cultures, teaching the attitude of tolerance, patriotism, the implementation of the tradition of European as well as national culture (The core curriculum for grammar and secondary schools which give students school leaving certificates after passing the secondary school leaving exam from 15th January 2009). What does it mean to teach an active civic attitude, the attitude of respect for the traditions and culture of students’ own nation as well as for other cultures and traditions? (The core curriculum with comments) Thus, how do schools implement these goals and objectives? The analysis of the empirical material collected indicates that the results are not clear-cut. The question of whether the school implements any content related to multi – and intercultural education was answered affirmatively by the respondents from five grammar schools, which constitutes 42% of all the responses, in other institutions such content is not implemented at all or
the teachers were not able to give an unambiguous answer (Graph 3). The way of implementing the content is primarily through cross-curricular activities or on foreign language lessons mainly by teaching foreign languages. This indicates that the teachers think of foreign language teaching and learning as one of the main ways to implement intercultural education. It is rarely an integration program, such as Socrates-Comenius, an anti-discrimination program, e.g. Everyone Different – All Equal, a simulation game enabling students to be in the role of the Other, etc. The city of Koszalin has taken several initiatives when it comes to intercultural education, such as the Festival of Ukrainian Children Groups, European Film Festival Integration You and Me, Francophone High School Theatre Festival, Polish-German Youth Festival, All-Poland competition of knowledge about the European Union “THE STAR CIRCLE” or the program “My School in the EU.” However, are these measures sufficient? Only one of the schools surveyed takes a number of initiatives in this area, such as a regular youth exchange within the framework of agreements signed with five countries, including the Netherlands, Turkey, Spain, Greece and Italy, an international Photo Day, Culture Days and many more.

Graph 3: The implementation of multi – and intercultural education in schools of Koszalin

The empirical data collected show that the aims and objectives of intercultural education are not executed in the grammar schools of Koszalin. Moreover, the teachers responded that although the objectives as well as tasks at the school level are not always executed, they provide the content of multicultural education themselves. 77% of the respondents included the content of inter – and multicultural education in the education program of their subjects. Most often it appears in
English classes as well as on Polish and History lessons (Table 2). Unfortunately, the respondents did not give more detailed answers connected with the ways and forms of the implementation of such content. The only response was the statement “during the classes”.

Table 2: The implementation of multi- and intercultural education in schools of Koszalin on the basis of individual subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>yes</th>
<th>no</th>
<th>I don't know</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Polish</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>German</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Geography</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>History, Civics</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>English 3</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Religious Education</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Art, Family Life Education</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Physics</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Information Technology</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>11</td>
<td>3</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Own research

In addition, the respondents were not able to specify the objectives or tasks of intercultural education, their most frequent answer was “I do not know,” 79%, or “its goal is to introduce the language, traditions and cultural customs of students,” 9% of the respondents and “promoting the attitude of acceptance, tolerance and being open to others,” 12% of the teachers. However, in response to the next question they claimed that they were consciously and deliberately involved in the development of their students’ intercultural skills through their own educational actions. Only 20% said they were not sure and 5% of the teachers claimed they did not develop such skills. (cf., Graph 4)

This means that the teachers who work in the conditions of low cultural diversity are not familiar with the tasks of intercultural education, since, most probably, they do not include them in the scope of the content of their subjects, although they declare such activities. However, the inability to indicate the types of undertaken tasks clearly indicates that the teachers are convinced that they execute the core
Intercultural Education in School Practice on the Example of the City of Koszalin

Graph 4: Awareness of teachers in the development of students’ intercultural skills

Source: Own research

curriculum by working with the textbook, which already contains the content. This is indicated by the responses relating to the content connected with intercultural education in the textbooks of the subjects taught. According to the teachers, the content cannot be found only in materials for teaching IT, Chemistry or Physics. However, most of it can be found in the textbooks for teaching foreign languages, Polish and History (Table 3). The content generally relates to literary texts connected with Polish and foreign literature, foreign texts describing the customs, cuisine and traditions of other cultures, mainly English-speaking ones, global politics as well as Polish and worldwide contemporary problems.

Table 3: Cross-cultural education content in textbooks of individual school subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>yes</th>
<th>no</th>
<th>I don’t know</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Polish</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>German</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Geography</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>History, Civics</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>English</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Religious Education</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>
### Conclusion

The research conducted among grammar school teachers in Koszalin suggests that the state of the implementation of tasks connected with intercultural education is low. The teachers declare taking, even conscious, initiatives in this area but are not able to identify the kind of those initiatives. Moreover, they often do not know the objectives of multi- and intercultural education. The teachers’ statements show that they are certain that there has already been content connected with this field in materials and textbooks, which exempts them from taking independent action. In addition, 90% of the respondents said that they were not qualified enough to work in conditions of multiculturalism and 15% of them claimed that it was not necessary, because of the one-culture environment in Koszalin. The causes of a lack of preparation of teachers were justified by the following statements: “This is the new content, which has been current for several years and I still do not know it” (a teacher with more than 12-year experience); “No teaching aids for the implementation of the content of multiculturalism” (a teacher, 6–12-year experience), “I work intuitively, I think that a course is needed” (a teacher, 6–12 year experience).

In conclusion, the study has shown that training teachers and providing them with teaching aids are indispensable for educating and preparing young people for living in the modern global society, so that detachment from the present day (mentioned by Pachocinski) does not happen (Pachocinski 2006, p.35). The current reports of the Ministry of Education refer to the plans to introduce a compulsory subject called “multicultural education” in Polish schools at all levels of education, and thus to prepare qualified teaching staff in this field. (Nasz Dziennik No. 121 (4660), 25–26 May 2013.)
References


Nasz Dziennik, 121 (4660), 25–26 maja 2013.


http://inforeigner.rajska.info/?m=46&a=1&l=pl&p=1 (01.06.2013).
Podstawa programowa kształcenia ogólnego dla gimnazjów i szkół ponadgimnazjalnych, których ukończenie umożliwia uzyskanie świadectwa dojrzałości po zdaniu egzaminu maturalnego z dnia 15 stycznia 2009.

Podstawa programowa z komentarzami, nr 3,4,5.


Abstract

The paper focuses on the quite original and not much discussed subject of the relationship between volunteerism and community sense, whose support in Czech society has great potential for the development and functioning of a humane-oriented civil society. First, the paper depicts both concepts and capacity of volunteering utilization in the development of the community sense. Then it emphasizes two promising ways of volunteering support that take into account the educational and developmental context. These are the development of prosocial values and positive shaping of youth happiness. As the presented findings indicate, the individual happiness impacts on both the individual’s prosocial orientation and willingness to volunteer that is enhanced also by prosocial values.

Keywords: community, community sense, volunteering, prosocial values, happiness

Introduction

The paper presents a theoretical proposal of a scheme of relations between several concepts whose mutual relations emerge separately in the literature and whose complex connections may offer space for extending the positive development of the individual in terms of his personality and life satisfaction as well as from the perspective of contemporary society needs (in terms of promoting civic awareness, responsibility and involvement). This need seems topical, due to the increasing
orientation of the contemporary generation to individualistic and consumerist values (Sak, 2000).

**Community and community sense**

The concept of *community* is not too widespread in the Czech Republic (as well as in other Central European countries). It illustrates poor attention paid to the term “community” in the Czech literature (e.g. dictionaries) in comparison with other countries (Hartl, 1997).

In our circumstances the communities are mostly perceived as groups of individuals associated primarily by a specific objective, meaning or link. We can thus speak of a therapeutic community, drug community, the community of marijuana users, religious community, etc. The community in the social, psychological (or civic) sense is more or less missing (elements of civic communities can be observed more likely in the country/villages).

In our conditions we can mention declared efforts of many volunteer organizations to strive for “the development of civic society“, which can be understood as exertions to promote a model substantially similar to the community. From communities they differ declaratively in a broader societal approach that is targeted selectively and specifically (mostly in the form of help for a specific group in need).

The importance of the topic of communities in relation to Czech society is based on the fact that in the last decades Czech society has faced weakening of civic engagement and that the principles of communities have many positive implications, and consequences, both generally and in comparison with the current approach in Czech society. We mention a few of these benefits for illustration.

Unlike volunteerism that focuses on helping by-problem-defined groups, the community is a socio-geographical group. It is therefore defined as a group of people in a certain area or place (it can be a district, neighborhood, ethnic or cultural territory, small town, village, etc.), in which further interconnections and interactions (including helping) are secondary and based on membership in the community (Hartl, 1997).

Compared to the generally defined effort to develop a civil society (the nation), the community is connected with a smaller and more closely interconnected social structure. It is thus easier to initiate, develop and maintain appropriate processes (i.e. help for the sick or elderly, participation in social activities, etc.), since they are built on personal relationships in a small circle of individuals. This is a more efficient model than the concept of civil society as a whole nation (where some
of the mechanisms, processes and links cannot operate and the whole concept is getting into a more abstract plane). The existence of these (geographically) closer relationships figuratively develops the personal commitment and social responsibility of individuals in relation to society as a whole (through personal experience with the needs of its members). The community increases the involvement of citizens, their interest in public affairs, trust in the possibility to influence events and general political and civic responsibility.

Involvement in the community has a positive impact on its members by extending the number of social ties to the others (that are also more stable), creating a social support network, reducing the level of alienation in the modern world, or by offering a greater sense of meaning and thus increasing life satisfaction, etc.

In this context, we understand the community sense as the sensation of binding to a specific group of individuals and the associated shared responsibility for the functioning of this group.

Even from this brief overview it is possible to suppose that support of the development of the community sense brings many positives both for individuals and for society at different levels of generality or in different areas. The following text outlines the possible way of the community sense development through support of volunteering and the enhancement and support of the individual’s qualities that sustain the participation in volunteer activities.

Volunteering as the way to the community sense

Penner (2002, p 448) defines volunteering as a “long-term, planned prosocial behavior from which benefit the others and which appears in the organized environment.” United Nations Volunteers (Hockenos, 2001) in their definition of volunteering highlight three basic characteristics: 1) the activity is not performed for financial reward (although some spending is paid), 2) the activity is done voluntarily, based on the free will of individuals, and 3) the activity brings benefit for someone other than the volunteer, or for society in general (although the personal benefit of the volunteer is not excluded). Volunteering thus involves a number of different activities, divisible into four areas: mutual aid or self-help; philanthropy, service to others; participation or civic engagement; and advocacy or campaigning.

The importance of volunteering has been described for many years primarily in the context of economic benefit that can be seen as direct and indirect. The direct benefit is the saving of expenses (wages, insurance, etc.). These savings are regularly denominated in billions of dollars per year. Indirect effect then comes out from
the benefit of volunteers’ work (e.g., the money saved on the caregiver, the positive effect of volunteering on health status in relation to the costs of health insurance, etc.) (e.g., Ironmonger, 2006; Balandino, Llewellyn, Dew, Ballin, 2006).

In terms of this contribution, individual and social benefits are of more significance. For individuals volunteering is an opportunity to acquire new skills and experience, strengthen the feeling of belonging to the company, increase self-esteem, expand their career opportunities in the future, create new interests and hobbies. Similarly, volunteering can have a positive effect on the mental and physical health of the individual (Libretto, Yore, Buchnre Schmid, 2005; Li, 2004; Morrow-Howell, Hinterlong, Rozario, Tang, 2003). As Mlčák and Pečtová (2011, p.2) also state, volunteering “increases sophistication of interpersonal relationships, strengthens social cohesion, the overall moral level of society and is a source of significant economic benefits”, which are the principles and processes characteristic of a civic community.

We can thus assume the relationship between volunteering and the community sense expressed graphically in Figure 1.

**Figure 1.** The relationship between volunteering and community sense

The mutual relationship is reciprocal, because volunteering has the potential to develop the community sense that additionally increases the involvement of individuals in society, and thus supports willingness to volunteer.

Given this assumption and also the tradition of volunteering in the Czech Republic, and similar internal mechanisms and processes in the participants of volunteering and community services, the promotion of volunteering and volunteer orientation appears as one of the most promising ways of developing the community sense. In the contemporary literature two interconnected routes leading to this goal emerge. It is the direction of development towards acquiring pro-social values and, further, the support and influence of youth happiness.
Pro-social values as a means to volunteering

Recent findings confirm the existence of links between prosocial values and volunteering (e.g., Schuyt & Bekkers, 2005; Selbee & Reed, 2002). This relationship can be perceived in two general processes related to volunteering: selection and causation. Selection means that volunteers have more prosocial values before the initiation of volunteering. Causation means that volunteering causes changes in social values in individuals in a more pro-social direction.

Theoretical explanation of the selection process is based on the fact that, in contrast to economic approaches where all individuals are assumed to be equal, social psychologists assume that individuals in social dilemma situations differ in the weight they attach to the wellbeing of themselves and others (Van Lange, 2000), leading to different willingness to cooperate with others in these situations (van Lange, 1999). From this perspective it is possible to divide the individual to prosocial-oriented and proself-oriented (or individualistic-oriented), when both groups perceive social dilemma situations differently (cognitively) and consider different aspects of the situation in their decision making.

The evaluation of social dilemma situations is related to the valuation of outcomes, because, as indicated above, prosocial-oriented individuals attach greater weight to the outcomes for others. Van Lange (1999) names this phenomenon a social value orientation and supposes that pro-social oriented individuals focus not only on outcomes for the others, but also on the equality of outcomes. This is confirmed by other studies, which show that the demand for equality is greater than the focus on outcomes for the others (Eek & Gärling, 2006). This is accompanied by greater social responsibility (De Cremer & Van Lange, 2001), which in total results in a greater interest in equality in society and socially responsible conduct. Prosocial-oriented individuals also more markedly evaluate social dilemma situations from the perspective of morality, where non-participation is perceived as immoral (Liebrand et al., 1986) and one's own costs are assessed as lower than in pro-self-oriented individuals (Cameron et al., 1998).

Causation process used to be explained by a Group socialization theory (Parsons, 1951) and Self-perception theory (Bem, 1972). The Group socialization theory assumes that the successful functioning of an individual is dependent on the success of socialization within the group. The group has (among other things) the ability to create social pressure on the individual to change and master specific values (Hooghe, 2003). We can also conclude that socialized values are gradually internalized and generalized to most areas of life (Kohn & Schooler, 1982).
The *Self-perception theory* in the context of volunteering describes how participation in volunteer activities affects and supports the individual’s self-image of a “helpful person” (DeJong, 1979). This increases the likelihood and willingness to be more involved in volunteering (Schwartzwald et al., 1983), develops an altruistic self-identity (Piliavin & Callery, 1991) and increases adherence to pro-social values (Bekkers, 2006).

These above-mentioned findings are also confirmed by our findings from the GA ČR project “Prosocial behavior and personality aspects in the context of volunteering”.

**Figure 2.** Mutual relation of prosocial values, volunteering and community sense

Speaking of certain prosocial values that should be cultivated, besides the social value orientation we also emphasize generalized trust, social responsibility and altruistic values. The *Generalized trust* expresses the expectation that the others will be trustworthy (Uslaner, 2002). The social responsibility is linked to the philanthropic behavior related to the sense of duty as a good citizen. It represents formal helping behavior in the form of volunteering or charitable giving from which benefits the community at large (Schuyt et al., 2004).

Given that social value orientation is not immune to change and is not a long-term, stable and unchanging personality trait, there is a good opportunity for its influence through external interventions (e.g. education), especially in the period of its formation, i.e. childhood and adolescence.
Multidirectional effect of happiness

The conceptualization of happiness emphasizes mainly its subjective nature, where the individual is the final judge (Myers & Diener, 1995). Although there are several concepts used to define happiness such as psychological well-being (Ryff & Singer, 1996) or self-determination theory (Ryan & Deci, 2000), the concept of subjective well-being is the most widespread. It refers to people’s appraisals of their lives and entails both cognitive judgments of satisfaction and affective evaluations of moods and emotions (Diener, 1984). The subjective well-being consists of four interconnected but separable components, which include life satisfaction (global appraisal of life), satisfaction with important areas of life (work, partner, family and marriage, etc.), positive affects (preponderance of positive emotions and moods) and low levels of negative affects (unpleasant emotions and moods).

There is growing evidence that well-being and happiness have a broad impact on many aspects of prosocial values and behavior, volunteering and in the context of the above-mentioned supposedly also on the community sense. Speaking specifically, happy people (especially with high levels of positive affects) judge people they meet in a more positive way, are more interested in social interaction (Berry & Hansen, 1996). Positive affects also increase trust in others (Dunn & Schweitzer, 2005) and helping behavior (Isen & Levin, 1972). Also, individuals with higher life satisfaction exhibit more generalized trust in others (Brehm & Rahn, 1997), which also predicts societal well-being.

In relation to the former statements and within the issue of community sense, it is also substantive that happier people have a greater tendency to volunteer work (Thoits & Hewitt, 2001) and they also exhibit an increase in ethical judgments (James & Chymis, 2004). Tov and Diener (2008) as well as Inglehart and Klingemann (2000) are of a similar opinion and they associate general well-being with democratic attitudes, higher generalized trust in society and volunteerism.

The relation between well-being and volunteering (community sense) is naturally reciprocal. As an important side effect we can mention the positive impact of volunteering on greater life satisfaction, self-esteem, physical health, longevity, decreased psychological distress, etc. (Thoits & Hewitt, 2001; Rietschling, 1998; Young & Glasgow, 1998).

The multidirectional effect of happiness and well-being on prosocial values, volunteering and the community sense can be demonstrated as follows (cf., Figure 3).

Given the particular similarity and duplication of most of the interactions and due to the close link between volunteering and the community sense, we can propose the following simplified model of the mutual impact of happiness
and pro-social values on the community sense (cf., Figure 4) that may represent a fundamental theoretical basis for the development of the community sense in our social and cultural conditions.

**Conclusion**

Although the relations depicted in this paper may seem natural and logical, the connection of all the described components (happiness, prosocial values, volu-
teering and community sense) is quite an original act and has not yet received much attention in research or in practice. This theme yet bears great potential (especially in the context of changing society mentioned in the introduction). If we would like to summarize the main motives for support of volunteering and the development of the community sense, we have to emphasize:

- Positive economic effects on society and the state,
- Increase in civic awareness and participation in civic life,
- Desirable prosocial-oriented development of personality,
- Increase in life satisfaction and (in a wider context) the health of the individual,
- Etc.

It is obvious that it would be desirable to increase (or broaden) the interest in this domain especially in those who have the opportunity to actively influence the youth and their development, i.e., teachers (and parents as well). These efforts should focus on several areas. Within the development of prosocial values, the social value orientation, generalized trust, social responsibility and altruistic values are of the greatest importance. In terms of happiness, it is appropriate to focus on the support of its components, particularly life satisfaction and positive affect. Hand in hand with this, it is possible to focus on other aspects of a stable, resilient and positive personality, such as self-esteem, positive self-identity, self-efficacy, etc.

To achieve the objectives mentioned, it is of course necessary not only to encourage volunteering and the development of a volunteering-oriented personality, but also to initiate and support efforts to develop community thinking in society and to begin setting up the community units. Here is a space for individuals, civic and non-government institutions, as well as various government organizations and units (Ministry of Education, Youth and Sports, regional offices, city representatives, municipalities, etc.).

The paper has outlined the theoretical framework of the relationship between specific characteristics of the individual (happiness and prosocial values) and socially desirable values (volunteering and community sense). Given the potential and importance of this topic it will be given further attention in the GA ČR project and comparative studies including proposals of specific procedures and recommendations for the development of all the four variables will be described in subsequent articles.

Acknowledgement: The paper was supported by GA ČR project No. P407/11/0380 “Prosocial behavior and personality aspects in the context of volunteering”
References


The Attitudes of Adolescents in the Czech Republic towards Contemporary Civic Virtues in Adults and Their Demands for Changes

Abstract

The aim of the survey was to find out what attitudes young people aged twelve to seventeen maintain towards adult civic qualities and virtues as compared with their demands for changes in civic behaviour. The objective of the study was to find out whether, based on their perception of adult behaviour, the critical youth wish for changes in civic behaviour and which aspects of citizen life they should be linked to.

The survey tool used was a questionnaire investigating attitudes and behaviour in various situations of citizens’ everyday life. There were 33 Likert-type question items in the questionnaire (e.g. They are proud of their country.). The questionnaire showed a high level of reliability. The survey sample consisted of 533 adolescent respondents (aged 12–17).

There were four factors generated through factor analysis from the collected results: 1. Respect for traditional social norms and roles; 2. Tolerance and respect for other people’s rights; 3. Patriotism and trust in public institutions; 4. Application of constitutional civic rights. The adolescent respondents were asked to mark the statements which should be changed.

The outcome confirmed the hypothesis of high criticality in the respondents, which we consider a significant social challenge: adolescents demand a major change in civic behaviour described by the total of 14 items (42.7%) in all four factors. The highest number of proposed changes falls into the factor of “Respect for traditional social norms and roles”, while the fewest proposed changes concern the factor of “Patriotism and trust in public institutions”. According to the respondents, traditional social norms and roles and tolerance and respect for other
people’s rights should be strengthened as well. The attitude towards active civic virtues implies a need for better and more sophisticated civic virtues education, both within the family and in schools. The results obtained from this survey will be used in generating civic education programmes for primary and secondary schools.

**Keywords:** citizenship, civic rights, civic virtues, civic education.

**Introduction**

The process of socialization gives an individual a possibility to grow into an active participation in the life of the society they were born to and which they live in. He/she uses standard procedures to internalize cultural patterns (such as traditions, customs, modes of behaviour, rules, laws and taboos) as a way of life. Many of these socializing techniques are learnt consciously, many of them unconsciously and, as a rule, the learning process starts with imitating. The aim of every socializing process is to create an individual fully able to accept society’s norms (standards regulating group behaviour), which they actively stand up or adjust to if the situation requires them to do so.

According to Vacek (2008), the initial socializing tendencies in children usually concern internalizing conventional norms, beginning with the simplest ones like saying hello or thank you and progressing towards the more complex ones which define contacts among people in essential matters. In this case, socializing individuals (usually parents) proceed traditionally, consciously, and with a concrete goal in mind. However, every individual in a functional society with democratic elements learns not only about conventional norms and he/she is praised for their active fulfillment and reprimanded for their abuse, but they learn about coexistence in a wider civic context as well. Although civic coexistence must inevitably contain a number of accepted conventional norms, it also represents a chance for an adult person to show their attitudes towards others, society and, finally, towards themselves. In other words, it is a chance for them to behave like citizens, to actively show their relations to the society they are living in and to make effort to sustain functioning of this society by their behaviour (cf., Ross, 2002). Apparently, imitation behaviour including subconscious elements yields better results than conscious and focused educational efforts.
In our country, education for citizenship in its modern democratic version lacks a long-term tradition due to the totalitarian years. There is no use describing in detail the demands of a totalitarian society on its citizens, as those who have experienced it know it and those who have not would find it very difficult to believe. However, an individual becomes a citizen and citizens are supposed to be active and educated in terms of their rights, duties and civic virtues (cf., Šil and Karolová, 2008). We placed stress on the initial socializing activity, which is imitation. Let us suppose that even an adolescent individual will use the process of imitation for internalizing civic virtues and implementing them into practice. What does the imitated role model look like? How does a contemporary citizen behave? Does his/her behaviour correspond with the time-proven democratic civic virtues? Do critical young people wish for a change in citizens’ behaviour? We were interested in finding answers to all these questions and so they were included in our research.

**Method**

In order to learn about adolescent respondents’ attitudes towards civic virtues, we created a questionnaire describing everyday life situations that occur in the lives of most adults and adolescents. The questionnaire contained 33 items complemented with a Likert-type scale (the items are listed further on); every question item was then supplemented with another similar scale questioning about possible item changes.

**Survey sample**

The survey sample consisted of 533 respondents aged 12–17. There were 287 girls and 246 boys and all of them were pupils or students of primary and secondary schools and of vocational schools in various places of the Czech Republic. (e.g., Rychnov nad Kněžnou, Brno, České Budějovice, Liberec, Hradec Králové, Pardubice). Also, in each respondent, we investigated variant variables, which were estimated to influence a variety of answers. These were: sex, age (M=15.0; SD=1.8), family structure (complete =397 and divorced=136, which represents 25.52% of the total).
Results

Questionnaire reliability was measured by Cronbach’s $\alpha = 0.91$. The obtained data were factor analyzed using the orthogonal Varimax calculation method (critical level $|0.40|$) and four factors were generated. We ranked all the statements within each factor according to their communality level, going from the highest one to the lowest supercritical one.

**F1. Tolerance towards Other People and Cultures**

25. They make good neighbours in the place where they live.
27. They respect the right of other people to be different from them.
24. They reject corruption and bribery.
33. They consciously hold respect for other people.
28. They respect other people’s opinions although they are different from their opinions.
14. They respect other nations.
30. They protect the right of other people to be what they are.
20. They respect minority rights.

**F2. Application of Constitutional Civil Rights**

1. They participate in public elections.
13. They make donations to charities.
26. They believe in God.
31. They actively participate in their community’s social life.
16. They participate in demonstrations, write or sign public petitions if they do not agree with a particular important issue.
17. They take active part in public discussions concerning issues like motorway construction or green countryside.

**F3. Patriotism and Trust in Public Institutions**

2. They are fans of their national sport teams.
15. They like living in their country.
32. They actively keep their national and regional traditions alive.
18. They are proud of their country.
21. They rely on the police.
29. They are proud of the army.
23. They trust the legal system.
22. They believe the politicians they have elected.
6. If the national anthem is played, they join in singing and they are moved by it.

**F4. Traditional Roles and Social Norms**

11. They love their family members.
9. They regularly go to work.
4. They look after their children and families.
10. While at work, they spend their time working.
3. They have good manners.
7. They obey traffic rules.
8. They make a continuous and complex effort to maintain their good health (in terms of their diet, preventive check-ups and relaxation).
12. They help other people.
5. They protect the environment.

The following table shows basic results in the factors:

**Table 1. Citizen – Current State**

<table>
<thead>
<tr>
<th></th>
<th>F1: Tolerance towards Other People and Cultures</th>
<th>F2: Application of Constitutional Civil Rights</th>
<th>F3: Patriotism and Trust</th>
<th>F4: Traditional Roles and Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>23.98</td>
<td>13.37</td>
<td>27.30</td>
<td>30.99</td>
</tr>
<tr>
<td>SD</td>
<td>6.29</td>
<td>3.11</td>
<td>6.12</td>
<td>6.67</td>
</tr>
<tr>
<td>Minimum and Maximum</td>
<td>min. 8; max. 40</td>
<td>min. 6; max. 30</td>
<td>min.10; max. 50</td>
<td>min.9; max. 45</td>
</tr>
</tbody>
</table>

The highest score was reached in the category of traditional roles and norms and trust in public institutions, whereas the lowest score was reached in the application of constitutional civic rights.

**Table 2. Factor Correlation**

<table>
<thead>
<tr>
<th>Factors/ r</th>
<th>F1:Tolerance towards Other People and Cultures</th>
<th>F2: Application of Constitutional Rights</th>
<th>F3:Patriotism and Trust</th>
<th>F4: Traditional Roles and Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1: Tolerance</td>
<td>xxx</td>
<td>0.25**</td>
<td>0.54**</td>
<td>0.76**</td>
</tr>
<tr>
<td>F2: Application of Constitutional Rights</td>
<td>xxx</td>
<td>0.49**</td>
<td>0.22**</td>
<td></td>
</tr>
<tr>
<td>F3: Patriotism and Trust</td>
<td>xxx</td>
<td></td>
<td>0.49**</td>
<td></td>
</tr>
</tbody>
</table>

** p<0.01;
The Table clearly shows a close correlation and influence among all the four factors. Positive correlations show that a rise in one factor makes other factors rise as well, and vice versa.

While assessing the changes demanded by the respondents within the framework of civic behaviour, we took into account all the answers allocated with three or four points, which means the statements: change “substantially” and change “very significantly”. We calculated relative frequencies and ordered them into the following table. The change order is given by the sum of relative frequencies of the two possible answer options. The level considered is 40% of the total; here we assume that the reference to civic behaviour changes is significant and not influenced by chance.

**Table 3. Statements on Behaviour Change**

<table>
<thead>
<tr>
<th>Statement</th>
<th>% substantially</th>
<th>% very significantly</th>
<th>Σ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. They protect the environment.</td>
<td>28.89</td>
<td>30.39</td>
<td>59.28</td>
</tr>
<tr>
<td>3. They have good manners.</td>
<td>30.58</td>
<td>22.70</td>
<td>53.28</td>
</tr>
<tr>
<td>12. They help other people.</td>
<td>30.77</td>
<td>20.08</td>
<td>50.85</td>
</tr>
<tr>
<td>8. They make a continuous and complex effort to maintain their good health (in terms of their diet, preventive check-ups and relaxation).</td>
<td>32.65</td>
<td>17.45</td>
<td>50.01</td>
</tr>
<tr>
<td>13. They make donation to charities.</td>
<td>32.83</td>
<td>13.70</td>
<td>46.53</td>
</tr>
<tr>
<td>7. They obey traffic rules.</td>
<td>27.95</td>
<td>18.39</td>
<td>46.34</td>
</tr>
<tr>
<td>33. They consciously hold respect for other people.</td>
<td>28.89</td>
<td>15.95</td>
<td>44.84</td>
</tr>
<tr>
<td>24. They reject corruption and bribing.</td>
<td>19.82</td>
<td>22.89</td>
<td>42.71</td>
</tr>
<tr>
<td>1. They participate in public elections.</td>
<td>25.70</td>
<td>16.07</td>
<td>41.77</td>
</tr>
<tr>
<td>31. They actively participate in their community’s social life.</td>
<td>31.52</td>
<td>9.44</td>
<td>41.29</td>
</tr>
<tr>
<td>28. They respect other people’s opinions although they are different from their opinions.</td>
<td>26.83</td>
<td>14.07</td>
<td>40.9</td>
</tr>
<tr>
<td>4. They look after their children and families.</td>
<td>21.95</td>
<td>19.01</td>
<td>40.96</td>
</tr>
<tr>
<td>18. They are proud of their country.</td>
<td>23.45</td>
<td>17.51</td>
<td>40.96</td>
</tr>
<tr>
<td>30. They protect the right of other people to be what they are.</td>
<td>28.33</td>
<td>12.20</td>
<td>40.53</td>
</tr>
</tbody>
</table>

The statements are ranked according to the percentage of change proposals. We noted that there was an urge to change the behaviour of Czech citizens in 14 statements, which represents 42.42%. If we include the statements about changes in the four factors, we obtain the following data:
- Tolerance and respect towards other people and cultures (F1): 4 statements;
- Application of constitutional civil rights (F2): 3 statements;
- Patriotism and trust in public institutions (F3): 1 statement;
- Traditional roles and social norms (F4): 6 statements.

The most change-accentuating statements fall into the factor of *Traditional Roles and Social Norms*, the fewest statements are in the factor of *Patriotism and Trust in Public Institutions*. The respondents would strengthen the traditional roles and social norms and tolerance towards others.

**Table 4. Citizen – Behaviour Changes in the Citizen**

<table>
<thead>
<tr>
<th></th>
<th>F1: Tolerance</th>
<th>F2: Application of Constitutional Civic rights</th>
<th>F3: Patriotism and Trust</th>
<th>F4: Traditional Roles and Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>17.07</td>
<td>12.16</td>
<td>20.38</td>
<td>20.30</td>
</tr>
<tr>
<td>SD</td>
<td>6.38</td>
<td>4.02</td>
<td>6.96</td>
<td>7.18</td>
</tr>
<tr>
<td>Minimum and Maximum</td>
<td>min. 8;</td>
<td>min. 6;</td>
<td>min.10;</td>
<td>min. 9;</td>
</tr>
<tr>
<td></td>
<td>max. 32</td>
<td>max. 24</td>
<td>max. 40</td>
<td>max. 45</td>
</tr>
</tbody>
</table>

Most changes are demanded by the respondents in the factors *Patriotism and Trust in Public Institutions* and *Traditional Roles and Social Norms*.

**Correlation between the current state level and behaviour changes:**
- F1 current : F1 change Tolerance: $r = -0.53**
- F2 current : F2 change Application of Constitutional Civil Rights $r = 0.40**
- F3 current : F3 change Patriotism and Trust: $r = -0.13**
- F4 current: F4 change Traditional Roles and Norms: $r = -0.57**.

According to the results, the F1, F2 and F4 factors are linked together very closely. Here we can see direct dependence: the lower the current level, the more significant is the respondents’ wish for a change and vice versa.

In the independent variable respondents’ sex, no significant changes in attitudes towards current citizen behaviour were discovered between the answers provided by the girls and by the answers provided by the boys as far as the demanded changes were concerned. However, three factors (without the F2 Factor) show that the girls demand statistically more significant changes than the boys. Speaking about the correlation between the respondents’ age and answers in both categories, the older the respondents are, the lesser fullfilment of all the four factors they observe. The
older respondents tend to be more critical and probably also more experienced than the younger ones. The older the respondents are, the more they wish for changes in citizen behaviour in all the four factors. The variable family structure did not show any significant differences among the respondents with different family structure backgrounds; the divorced family respondents wished for a rise in Factor 3: Patriotism and Trust in Public Institutions significantly more often.

**Conclusion**

Building a modern civic society in our country cannot be based upon a long-term tradition, on the contrary, it is marked by the previous stage when the paternalistic state solved everything for its citizens in exchange for their devotion solely to work and family life and avoiding major civic involvement in forms other than the one demanded and permitted by the state. So, citizens concentrated only on the seclusion of their own lives and families and avoided (also for existential reasons) any more visible civic involvement and activities.

The respondents from our research sample live within families as well, and most of them still depend on their psychological, economic and social support. They usually feel aided by the family and they also have most personal experience with living in this environment, as opposed to the other three factors. Their sense of criticism in this area would make them carry out numerous changes (we cannot exclude that especially the older respondents project the vision of their future families here). In other words, they would strengthen family basis, which, consequently, could generate the changes needed for tolerating others and application of their constitutional rights in a better way.

They usually have no broader experience with the activities from other factors, particularly in the area of civic rights. This is also reflected in the fact that the older they are, the less they depend on their family ties and start to perceive their citizen role more palpably and, thus, they tend to suggest more changes even in the remaining factors. They would also like to change citizen behaviour concerning tolerance towards other people and their cultures. Their substantially richer experience of contacts with other cultures gained either by personal travel experience or exploiting easily accessible global electronic information resources may show here, undisputedly aided by the process of globalization itself (Giddens, 2000). The higher age of the respondents inevitably prompts them to investigate their future citizen role in greater depth, and they wish to be much more active in it than can be seen in contemporary adult citizens. The higher involvement of the girls in the area
of changes illustrates a higher level of emancipation in them and their more critical view of adult behaviour. In addition, and this is very important, today’s school system plays a totally different educational role in developing citizen involvement, thanks not only to new school educational programmes and curriculum changes (Hrachovcová, 2007), but to new teaching methods as well – activation teaching techniques have been implemented on quite a large scale and schools teach their pupils how to hold a discussion, deal with problems, make decisions, search and select information, work with written texts and have one’s own opinions and be able to formulate them (Staněk, 2009). Not being passive and stating one’s opinion is more natural than it used to be in the past.

Education for democracy and active citizenship can be only carried out in a safe school environment, which offers the option of democratic negotiation. However, it cannot be guaranteed that pupils will be able to fulfill the required civic attitudes in an unprotected real life environment, especially if the schools involved are not in living contact with local communities (Schulz, 2001). If education for citizenship in schools is to contribute to developing pupils’ value orientation, school teachers must protect the elementary common values of coexistence. At the same time, they must enable children to maintain culturally specific personal values, help them do so and unite these values in one concrete whole (Strike, 1998). Schools are facing the task of standing up to common civilization values (Scheffler, 1989) and initiating the process of harmonization of individual and common values (Knoflic, 2003). Both theoretical and practical citizenship education models strive to cope with the plurality of various scientific branches and approaches at different levels, which should serve as theoretical grounds for common professional standards. This goal can only be reached by observing arguments brought by various branches of knowledge (law, ethics, philosophical anthropology, pedagogy, social theory, etc.) in detail and finding the same language not only for heterogeneous theoretical orientation, but especially for the practical training of civic virtues and their implementation in everyday life.

This paper/work/research was supported by the European Social Fund [grant number CZ.1.07/2.3.00/20.0209 Development and support of multidisciplinary scientific research team for the study of contemporary family at UHK].
Reference


Responsibility in the Hierarchy of Values of the Polish Youth with Hearing Impairment

Abstract

The goal of upbringing is affirmation of the student, self-development within the system of values that is recognized by a group and eventually interiorized. A correctly shaped hierarchy of values, which fulfills a regulatory and motivating role, provides favorable conditions for maturation of a young person, gaining autonomy and at the same time integration with society.

In the article the results of the research conducted to identify the system of values of youth with hearing impairments are discussed. The position of responsibility, whose essence consists in regulating one’s free conduct, was identified within the hierarchy of values.

Responsibility is an instrumental value that is relatively highly valued by youth (rank 3 for hearing youth and rank 4 for youth with hearing impairment), which is a rewarding fact.

Keywords: values, responsibility, youth with hearing impairment

Introduction

Responsibility, understood at the most general level as a predisposition for assuming results of one’s own actions undertaken as a result of autonomous (free) decisions, whose essence consists in regulating one’s free conduct, is currently becoming an important subject of considerations, not only among theoreticians (e.g., philosophers, sociologists), but also practitioners, including pedagogues, psychiatrists (e.g. Malatesti, McMillan, 2010).
Responsibility is contemporarily perceived as a value but it is not at the same axiological level as freedom or truth. Responsibility is rather a specific kind of ability which is used to create and defend the values that are perceived as indispensable; this is the feature of personality which determines the way a person responds to the world of values (Zawadzki, 1982) and in this sense it assumes the character of an instrumental value (Rokeach, 1973, Drwal, Brzozowski, 1989; Jaworowska et al., 2011).

The significance of responsibility in the contemporary world is indisputable. It determines the psychic and personal maturity of a person and simultaneously it is a basis for conscious, active and independent participation in social life. Participation of persons with disabilities in the mainstream of social life assumes relationships between people in the common ideological, normative context, in the context of the system of values in which the individuality and uniqueness of every participant of this relation are respected. The condition of normalization of the social life of persons with disabilities is their responsibility.

Based on the analyses of theoretical concepts (cf., Zaborniak-Sobczak, 2013) it was assumed that responsibility in the individual dimension supports personal development, whereas responsibility in the group dimension facilitates building and maintaining partner relationships with people. In this context, identifying a degree of a sense of responsibility in youth with hearing impairments has become an interesting subject\(^1\). An indicator of this sense is a position of responsibility in the preferred system of values.

With high probability it can be assumed that the hierarchy of values in the overall belief system of a person is rather constant but not universal, the same for all people (Rokeach, 1973), and a distribution of individual values can result from social determinants, mainly changes (which are still taking place in Poland and concern, among other things, the possibility of participation of persons with hearing impairments in social life) and personality determinants. Thus, the hierarchy of values of youth, including youth with different disabilities, is an interesting subject and a diagnosis of the system of values is important for the course of the upbring-

\(^1\) The aim of the research undertaken by the author of the article within the project “Psychosocial determinants of a sense of responsibility in youth with hearing dysfunction” (the National Science Centre, Agreement No. 4275/B/H03/2011/40) was to recognize a sense of responsibility (a dependent variable) in youth with hearing impairments and to indicate the factors (independent variables) which differentiate this sense. This article presents only a description of the system of values and responsibility in this system of the youth examined, the detailed cause and effect analyses were omitted (I do not indicate determinants of the systems of values for both groups of the youth examined).
ing process. The moral or psycho-social development of youth is an important area of investigation and it is of both practical and theoretical interest as to whether deaf youth develop value systems that are identical to, similar to, or different from those of hearing people. Similar questions may be raised as to possible similarities and differences across gender, race, or sexual orientation. On a national level, for example, do individuals who have grown up in Slovakia have the same value systems as those who have grown up in the Czech Republic or in Poland?

**Research methodological assumptions. Characteristics of the youth examined**

The comparisons of the systems of values of both groups of the youth examined (i.e. youth with hearing impairments and hearing youth) will show if a hearing impairment is the variable that makes a system of values peculiar, characteristic of deaf and hard of hearing youth.

The article attempts to answer the following research questions:

- What is the hierarchy of values of youth with hearing impairments?
- Does youth with hearing impairments have a different system of values than able-bodied youth?
- What is the position of responsibility in the system of values examined?

Due to the fact that the theoretical knowledge concerning the system of values and the sense of responsibility of persons with hearing impairments is limited so far – the lack of research in this scope (cf., Easterbrooks, Scheetz, 2004), formulating accurate and exhaustive hypotheses to the research questions stated turned out to be impossible. However, it was assumed that the understanding of responsibility and its position in the system of values may be specific to youth with hearing impairments. Such factors as a lack of sufficient linguistic competence, difficulties with the process of abstract thinking, disturbances of the cognitive, emotional and social sphere and also often growing up in the outside-family environment may play an important role in shaping this system (Dryzalowska, 1990) and deaf children manifest remarkably more problems with overall mental health, including significantly more problems with hyperactivity and inattention, as well as with peer relationships, in comparison to hearing children and youth. The incidence of the child’s mental health problems in parental assessment is about twice as frequent as in the case of hearing children. This value corresponds to such incidence in other European countries (cf., Leigh, Anthony 1999; Steinberg 2000; Wallis et al. 2004; Gent Van et al. 2007; Hintermair, 2007, Leigh 2009).
Persons with hearing impairments may have difficulties in adequate assessment of causes and effects, which most frequently results from insufficient development of linguistic competence. A lot of situations of everyday life require understanding of the situations, which are complemented with language communication, most frequently verbal, and making quick decisions, which determines the course of events. Development of the skills of critical thinking is a necessary element of the socialization and upbringing process because critical thinking consists in the ability of observation, logical thinking and adequate responding to information. Critical thinking, whose part is also understanding of values, is a means of independent monitoring of one’s own thoughts, feelings and actions. The role of a tutor (a teacher) is to help students to understand values, an attempt to arrange them in a hierarchy by youth with hearing impairments, which ensures their further social, emotional and also cognitive development (Easterbrooks, Scheetz, 2004). Only someone who acts consciously, makes conscious decisions, can assume consequences of their own actions; thus, can be responsible.

The description of Milton Rokeach’s theory of values, their essence and systems have been presented in detail in the Polish literature, mainly by Brzozowski (Drwal, Brzozowski, 1989) and the authors of the Polish normalization of the Rokeach Value Survey /RVS/ (Jaworowska et al., 2011). The RVS makes it possible to identify the hierarchy of values in two systems: of terminal and instrumental values. The first part of the scale examines the system of terminal values: eighteen terminal values are put in a priority order from the most important one (rank 1) to the least important one (rank 18). Instrumental values (also eighteen) are ranked analogously (Drwal, Brzozowski, 1989).

The statistical analyses, carried out using the SPSS program (Statistical Package for the Social Science), made it possible to identify the hierarchy of terminal and instrumental values of the youth with hearing impairments and the hearing youth. Using Spearman’s rank correlation coefficient, the consistence of ranking values by the persons with hearing impairments and the hearing persons was checked (Dodge 2008).

The research was conducted in the 4th quarter of 2011 and the 1st quarter of 2012. Teachers – tutors of youth with hearing impairments were designated to conduct the survey. Their task was, assigned based on contracts of mandate, to take care of the correct process of the survey, to explain possible doubts during the research. The project manager (the author of the article) distributed among teachers a procedure for conducting research and a template to be filled in after conducting the research.
The selection of the group of persons examined was intentional. Thus, the following criteria of selection of the primary sample (hearing-impaired youth) were assumed: a) having an official certificate of disability due to a hearing impairment; b) the age from 16 to 25 (students of post-junior high schools), due to the adaptation of the research tools. The comparative sample (control group) included students of generally available, post-junior high schools, who were 16 years of age and were not hearing-impaired. In order to reflect the social environment and the age structure, the research on the comparative group was conducted in dormitories inhabited by students of different post-junior high schools, coming from different social backgrounds.

Failure to reach youth with hearing impairments who attend generally available schools – inclusive and integration schools – undoubtedly should be recognized as a limitation of the research. A lot of students refused to take part in the research, which indicates that young people are not interested in the research subject undertaken, among other things, in the world of values. Because the selection of persons examined was not random, the results obtained should not be generalized to the whole population. The data obtained during the research only show a certain tendency regarding the hierarchy of values of the youth examined and perceiving responsibility in the structure of values.

The youth at the age from 16 to 25, attending educational centers for the deaf located in the south-eastern part of Poland were studied. A small percentage of the group examined were hearing-impaired students of higher schools. In total, 271 persons with hearing impairments, including 142 females (52.4%) and 129 males (47.6%), were examined. According to the research assumptions, the participants in the research were mainly students of post-junior high schools; thus, the most numerous group were youth at the age from 17 to 20 (178 persons, 65.7%).

In the comparative research, 195 persons (131 females, 67.2%, and 64 males, 32.8%), hearing students of post-junior high schools: technical high schools, comprehensive high schools and vocational schools, located in Rzeszow, took part.

The youth examined most frequently indicated a village or a small town (under 50 thousand inhabitants) as a place of residence.

Characterizing the group of youth with hearing impairments, I will pay attention to a cause of the hearing impairment, the onset of the hearing loss, the degree of the hearing loss and the preferred method of communication.

Specifying the cause of their hearing defect, the majority of the persons examined (89 persons /32.8%/ of the youth with hearing impairments examined) pointed out its acquired pre-lingual or peri-lingual character (before the age of 5).
When specifying the onset of hearing loss, over a half of the persons examined (143 persons, 52.8%) answered that they had been deaf since birth.

Taking into account the degree of the hearing loss, the following hearing impairments can be distinguished: mild, moderate, severe and profound (by the International Bureau for Audiophonology /BIAP/). The detailed information is presented in Table 1.

<table>
<thead>
<tr>
<th>How deep is your hearing loss?</th>
<th>Group size</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–40 dB (mild)</td>
<td>15</td>
<td>5.54</td>
</tr>
<tr>
<td>41–70 dB (moderate)</td>
<td>44</td>
<td>16.24</td>
</tr>
<tr>
<td>71–90 dB (severe)</td>
<td>71</td>
<td>26.20</td>
</tr>
<tr>
<td>More than 91 dB (profound)</td>
<td>77</td>
<td>28.41</td>
</tr>
<tr>
<td>I don’t know</td>
<td>60</td>
<td>22.14</td>
</tr>
<tr>
<td>No answer</td>
<td>4</td>
<td>1.48</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>271</strong></td>
<td><strong>100.01</strong></td>
</tr>
</tbody>
</table>

The youth examined preferred total communication as a method of communication with the closest social environment. 142 persons (52.4%) chose available means of communication in the form of the national spoken language and sign language.

**Analysis of the research results. The system of terminal values of the youth examined**

In the examined group of the youth with hearing impairments, personal values, such as family security (rank 1), wisdom (rank 2), true friendship (rank 3), happiness (rank 4) and mature love (rank 5), were highly valued among the terminal values. The lowest valued values included the world of beauty (rank 18), salvation (rank 17), an exciting life (rank 16) and equality (rank 15).

On the other hand, the hearing youth valued the highest such terminal values as: family security (rank 1) and mature love (rank 2). The subsequent highest ranked values were: wisdom (rank 3), happiness (rank 4) and true friendship (rank 5). The values ranked by the hearing youth as valued the lowest were: the world of beauty (rank 18), an exciting life (rank 17), social recognition (rank 16) and pleasure (rank 15).

The comparison of the hierarchies of terminal values in the groups of youth with hearing impairments and hearing youth is presented in Diagram 1.
Diagram 1. The way of ranking terminal values by the comparative groups examined

The consistence of the ranks of terminal values, and analogously of instrumental values, in the groups of youth with hearing impairments and hearing youth examined was measured with the use of Spearman’s rank correlation coefficient. Basically, it should be stated that the hearing-impaired persons and the hearing persons examined ranked terminal values similarly. The statistical analyses did not reveal any statistically relevant inconsistencies in this scope.

The system of instrumental values of the youth examined

In the case of instrumental values, the persons with hearing impairments valued the highest moral values, such as: honest (rank 1), helpful (rank 2), loving (rank 3), responsible (rank 4) and ambitious (rank 5). The instrumental values ranked low by the youth with hearing impairments included: imaginative (rank 18), broad-minded (rank 17), independent (rank 16) and logical (rank 15).

The hearing youth valued highly such instrumental values as: honest (rank 1), loving (rank 2), responsible (rank 3), independent (rank 4) and ambitious (rank 5). The least valued were: obedient (rank 18), broad-minded (rank 17), self-controlled (rank 16) and imaginative (rank 15). Diagram 2 presents the results of the comparative analyses conducted in both groups of the youth.
Diagram 2. The way of ranking instrumental values by the groups of youth with hearing impairments and hearing youth

The detailed statistical analyses revealed that in the scope of the evaluation of instrumental values, the persons’ gender is of importance. The men with hearing impairments and hearing men ranked individual values with statistically significant differences, which is presented in Diagram 3.

Diagram 3. The way of ranking instrumental values by the groups of men with hearing impairments and hearing men
The strength of the correlation of ranking instrumental values is not significant in this case (Spearman’s coefficient = – 0.02), the minus sign means that the higher a given value is valued by the men with hearing impairments, the lower it is valued by the hearing men. It is particularly visible in the case of the values: imaginative, broad-minded, independent, logical, intellectual, talented, which are valued significantly lower by the men with hearing impairments than by the hearing men. On the other hand, the hearing-impaired men prefer such instrumental values as: honest, helpful, courageous, responsible and loving, which are not that important for the hearing men.

Responsibility and its position in the system of values examined

Responsibility takes a high position in the hierarchy of instrumental values of the youth with hearing impairments (rank 4) and the hearing youth examined (rank 3).

Nearly 19% of the persons with hearing impairments examined selected it as the most important value (rank 1) among instrumental values. For nearly 4% it was the lowest valued value (rank 18).

In the group of hearing youth, more than 13% of the persons examined selected “responsible” as the most important value (rank 1), a numerous group (11%) ranked it on the high, third place. Only for 7 persons (3.6%) it is the least important value.

Data clustering made it possible to show the closeness of the value “responsible” to other instrumental values. The comparison of distances between the values allows for concluding that for the youth with hearing impairments the value “responsible” is in a close distance to the value “loving”. In the case of the hearing persons examined, the value “responsible”, similarly as in the case of the youth with hearing impairments, is close to the value “loving”, and besides, close to the values “independent” and “honest”.

In the case of the women examined, both those with hearing impairments and hearing ones, responsibility is a highly valued value, it takes the 4th rank (for the women with hearing impairments) and the 3rd rank (for the hearing women). The position of this value in the hierarchy of instrumental values looks different in the case of the men (Diagram 2). The men with hearing impairments value responsibility relatively highly (rank 4), but in the case of the hearing men the value takes the far 14th position (statistically significant differences).
Conclusions

Based on the above analyses, conclusions have been drawn which are simultaneously an attempt to give answers to the research questions:

- Both the youth with hearing impairments and the hearing youth have similar hierarchies of terminal and instrumental values, which may show that a hearing impairment is unlikely to be a variable differentiating the hierarchy of values. The youth highly value family security, wisdom, mature love, friendship and happiness among the terminal values. These values, which in theoretical assumptions are identified as personal values, are clearly prioritized over social values. The value “the world of beauty” takes the lowest position in the hierarchy of both groups of the youth compared.

- Out of the instrumental values, such values as honest, loving, responsible, and ambitious are valued the highest in both groups of the examined youth.

- In spite of the fact that detailed statistical analyses did not reveal differences in choices made by the two groups examined, it seems that gender may play an important role here – in the scope of instrumental values, the hearing men make significantly different choices from their hearing-impaired peers.

- The research shows that the men with hearing impairments can be more consistent in terms of being guided by responsibility in their personal and social life than the hearing men, for whom this value is not that important.

- Competence values, including imaginative, broad-minded, independent and logical, were ranked as valued relatively lowest, especially by the youth with hearing impairments. This fact may indicate that the youth examined do not attach significance to such personal features as self-creation, personal development, and it may result in an inappropriate self-assessment.

The research results show that the persons with hearing impairments examined value responsibility rather more highly than the hearing persons examined. Nonetheless, it should be recognized that this value is relatively highly valued in the system of instrumental values. The research results confirm the conclusions of the research conducted by other Polish (Szczupal, 2009, Cichowska, Kurkowski, 2012) and foreign authors (Franc et al., 2002, Vlah, Loncaric, 2011) according to which youth are open to the issues of other people; however, their openness is limited to the closest people, i.e., family and friends. Out of the instrumental values, whose purpose is to achieve aims and accomplish other values (terminal, final values), the youth value the moral values the most highly. It may mean that basically young people believe in morality as a method of achieving goals. The preference of such values as loving, honest, or responsible
may indicate young people's idealism, which is characteristic of the developing age of the youth examined.

The results of the research are optimistic. It should be hoped that responsibility declared will be a point of reference, of integrating and ordering information and individual and social experiences of the youth examined. Feeling responsible by youth with disabilities may be an indicator of effectiveness of the complex psycho-social integration process. On the other hand, responsibility is a basic and necessary prerequisite for the existence of real psycho-social integration.

References

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Meta-Behavioural Skill: Students without Problem Behaviour vs. Students with Problem Behaviour

Abstract

This study aimed to identify the levels of meta-behavioural skills among students from the categories of students without problem behaviour (SWOPB) and students with problem behaviour (SWPB). The sample of the study comprised 803 respondents, 398 students from the SWOPB category and 405 from the SWPB category. Meta-Behavioural Self-Evaluation questionnaire was used to measure meta-behavioural skills of the respondents. Research findings show that the meta-behavioural skills of students from the SWOPB category were better compared to SWPB. The findings also show that both groups lack conditional knowledge which is an important aspect of effective behaviour regulation, but the score for the SWPB group is very low (mean=1.55) as compared to the SWOPB group (mean =2.34). It can be hypothesized that conditional knowledge is one of the factors that should be promoted to help decrease problematic behaviour in schools.

Keywords: metacognitive skills, meta-behavioural skills, self-regulation, students with problem behaviour, students without problem behaviour.

Introduction

In the 21st century educators face a lot of challenges in their efforts of developing the national human resource: students. Many studies have been conducted on the seriousness of behaviour problems among students nowadays, such as the research by Emmerova (2011), Antono Suryoputro et al. (2006), the National Board of Residents and Family Development (2004), and Abdullah al-Hadi et al. (2001).
The research conducted by Abdullah al-Hadi et al. (2001) on 8035 secondary school students found that 37.5% of them showed truant behaviour; truancy is the most frequently committed disciplinary offence in both urban and non-urban areas. This is followed by other behaviours, namely inappropriate behaviour (16.1%) such as smoking, using inappropriate language, disrespecting teachers, and causing disturbance during the teaching and learning process; tardy behaviour (11.8%); and criminal behaviour (11.0%).

Researchers have taken heed of the increasing seriousness of problem behaviour among students by analysing the causes that instigate such behaviour. Past studies related to the construct of behaviour are divided into two main trends: 10 years before the millennium trend (from 1990 to 1999), and 10 years after the millennium (from 2000 to 2009). The result analysis shows that the main factors that cause negative behaviour among students in the two ten-year periods mentioned above are not very different. Instead, a lot of similarities were detected including the factors of students, family, school, peers, teachers, demography, climate, environment, as well as religious and educational status. Analysis of the findings shows that researchers did not put much emphasis on the students’ internal factor. For instance, Abdullah al-Hadi et al.’s (2001) study only reported the sub-factors of laziness, misunderstanding, boredom, lack of interest, annoyance, and intentionality as indicators of problems arising from the student’s internal factor. Their research did not at all explain students’ cognitive factor, known as the metacognition factor, even though it has been found to greatly affect behaviour. Metacognitive skills are important for effective learning because these skills allow an individual to plan, observe, and regulate their own cognitive performance as it is important to go through these mental processes before overt behaviour (Saemah et al., 2011). In this case, the metacognitive factor is a big gap in its field of study, thus it must be explored to help identify behavioural problems among students. The presented study aims to fill this gap by focusing on the metacognitive aspects related to mental activities one goes through before they are translated into a particular behaviour, which is called meta-behavioural skills.

**Meta-behavioral skill**

The term ‘meta-behavioural skill’ was coined by the authors based on the synthesis of theoretical definitions of metacognitive skills and metacognitive models (i.e., the Flavell model, 1979; Schraw & Dennison model, 1994; and Schraw model, 1998) and these theoretical definitions and models were related...
to Sigmund Freud’s psychoanalysis theory and Kohlberg’s moral development theory. The combination of metacognition and behavioural skill concepts formed the concept of meta-behavioural skill. In the current study, the meta-behavioural skill is divided into two main components, namely a meta-behavioural knowledge skill and a meta-behavioural strategy skill. There are three subcomponents in both the meta-behavioural knowledge skill and meta-behavioural strategy skill. The three subcomponents of the meta-behavioural knowledge skill are declarative knowledge, procedural knowledge, and conditional knowledge, while the three subcomponents of the meta-behavioural strategy skill are meta-planning, meta-observation, and meta-evaluation. In this study, the word ‘meta’ is used in front of the words planning, observation, and evaluation skills to illustrate that all these skills involve mental activities or active processes in the mind. We are proposing a model of the meta-behavioural skill as summarised in Figure 1.

Figure 1. The components of meta-behavioural skill

A detailed definition of the meta-behavioural concept together with its main components and subcomponents are as follows:

1. *Meta-behavioural skill* is defined as the mind’s executive power in regulating all types of knowledge, beliefs, or behavioural activities. The goals of these behavioural activities are at the metacognition level, where the activity of thinking about one’s thoughts involves the processes of planning, observing, and evaluating behaviour before it becomes overt behaviour, i.e., one that can be perceived and evaluated by other people. There are two main components
of the meta-behavioural skill, namely a meta-behavioural knowledge skill and a meta-behavioural strategy skill.

2. **Meta-behavioural knowledge skill** is a component of the meta-behavioural skill that includes one’s knowledge of concepts, facts, or ideas about bad or good behaviour or knowledge about “what” aspect of behaviour (*declarative knowledge*); knowledge about the “how” or the way of acting out a particular behaviour (*procedural knowledge*), and knowledge about the “when” and “why” and the suitability of certain environments for particular behaviours (*conditional knowledge*).

3. **Meta-behavioural strategy skill** is a component of the meta-behavioural skill that comprises three other subcomponents, namely:
   a. **Meta-planning skill**, which is used to establish the goal of a particular behaviour, determine the sources that influence the behaviour, and determine a suitable strategy that should be taken before an individual shows a behaviour.
   b. **Meta-observation skill**, which is used to check, examine, and evaluate any use of strategy and performance of the behaviour that is being thought of.
   c. **Meta-evaluation skill**, which is used to analyse and evaluate the product or performance and effectiveness of a projected behaviour.

The research on the metacognition aspect is very much related to the aspect of academic achievement. Based on a review of past research, this aspect is able to (i) make learning more effective, and (ii) improve confidence, motivation, academic achievement, and encourage good learning habits among students (Susser & McCabe, 2013; Schwonke et al., 2013; and Mazumder, 2012). Only a small number of past research findings shows an opposite trend, e.g., the study by Meijer et al. (2012), which reported that metacognitive activity did not relate to students’ performance in History or Physic. The presented study is focusing on the influence of metacognition on student behaviour. Based on the positive effect of past research on metacognition, the aspect of the metacognitive skill (in the context of the presented study, it refers to the meta-behavioural skill) is expected to positively affect the control of behaviour, especially when actively taught to students. It is suggested that the better meta-behavioural skill, the more positive student behaviour.

This paper suggested that the factor of the metacognitive skill related to the aspect of student behaviour was a vast body of knowledge that needs to be explored because we believe that it largely influences the student before he displays a particular behaviour. According to Sigmund Freud (1856–1939), who developed the psychoanalysis theory, people attempt very hard to resolved the conflicts that hap-
pen inside them because human instinct is inclined towards the seeking of pleasure and avoiding any form of pain (Santrock, 2005; and Corsini & Wedding, 2005). In another vein, Erik Homburger Erikson (1902–1994) created the psychosocial development theory that stresses the eight unique levels of development that one goes through in one’s lifetime (Santrock, 2005). At every development level, the individual will face crises and the more the crises that can be solved, the healthier the individual. Based on these two theories, it can be understood that there is a probability that students with problematic behaviour are inclined towards seeking pleasure in a negative way and fail to solve conflicts and crises they face. This is because they do not possess meta-behavioural skills, i.e., the mind or mental acuity to plan, observe, and evaluate all forms of behaviour before they are translated into observable behaviour. Hence, the presented research hypothesis is that students who have a good meta-behavioural skill will display good and acceptable behaviour as compared to students who do not have a good meta-behavioural skill.

The study sought to identify the influence of the metacognitive factors on student behaviour at the school level by comparing the level of the meta-behavioural skill (meta-behavioural knowledge and meta-behavioural strategies) between students with problem behaviour and students without problem behaviour.

**Methodology**

**Sample**

The research sample consisted of 803 people, comprising 398 students from the SWOPB category and 405 students from the SWPB category. The respondents were chosen randomly from six schools in one of the states in Malaysia. The students from the SWOPB category had never been charged with any form of disciplinary offences within the school area including light, medium, or heavy disciplinary offences, or had never been given disciplinary action be it oral reprimands, written reprimands, caning, suspension, or expulsion. The students from the SWPB category were taken randomly from a sample of students who had been involved in any form or type of disciplinary problems, whether light, medium or heavy offences.

**Instrument**

A meta-behavioural Self-evaluation (MBSE) questionnaire was administered to the research respondents. They took between 20 to 35 minutes to complete all the items in the questionnaire. The reliability of the questionnaire was high, based
on the calculation of its Cronbach alpha value. The Cronbach alpha value for the meta-behavioural knowledge skill was .701 and the Cronbach alpha value for the meta-behavioural strategy skill was .937.

The MBSE questionnaire is divided into two parts, namely the meta-behavioural knowledge skills and the meta-behavioural strategy skills. The meta-behavioural skill part consists of nine question items related to three moral dilemma situations which asked the respondent to answer what they would do in a given situation; three items are related to declarative knowledge, three with procedural knowledge, and three with conditional knowledge. The meta-behavioural strategy skill part consists of 34 question items, which are divided into meta-planning skills (12 items), meta-observation skills (11 items), and meta-observation skills (11 items). This section uses a five-point Likert scale which asks the respondents to rate their perceptions on their practice related to their meta-planning skills, meta-observation skills and meta-evaluation skills. After the data cleaning process, data from only 789 respondents were used in the final analysis (394 for the SWOPB group and 395 for the SWPB group)

**Data Analysis**

Descriptive statistics was used to explicate the mean and standard deviation of the variables under study. Independent group sample t-test was also used to make a comparison between the meta-behavioural skills of the SWOPB and the SWPB.

**Research results**

Figure 2 displays the levels of meta-behavioural skills among the students according to the SWOPB and SWPB categories. Research findings show that the trends of the score for all the components and subcomponents of meta-behavioural skills are almost the same for both groups, but the scores for the SWOPB are better than those for the SWPB. The lowest score for both groups is the sub-component of meta-behavioural knowledge, i.e., conditional knowledge (CK), whereas the highest score is the meta-evaluation skill for the SWOPB group, but for the SWPB, the highest score is another sub-component of meta-behavioural knowledge, i.e., declarative knowledge (DK).

The scores for all the components and sub-component of meta-behavioural skills are shown in Table 1. As a whole, the meta-behavioural skills of the SWOPB were very good (mean MBS = 3.94, s.d = .46) while those of the SWPB were at the good level (mean MBS = 3.33, s.d = .62). The results of the analysis show that the meta-behavioural knowledge of the SWOPB is at a very good level (mean MK =3.46, s.d = .53) compared to that of the SWPB, which is only at a good level (mean
MK = 2.90, s.d = .55). The analysis also shows that the meta-behavioural strategy component of the SWOPB is at a very good level (mean MBS = 4.06, s.d = .55) compared to that of the SWPB, which is only at a good level (mean MBS = 3.45, s.d = .75). However, both groups show low scores in the conditional knowledge subcomponent, where the score for the SWOPB’s group is only at a medium level (mean CK = 2.34, s.d = 1.04) while that of the SWPB is at a weak level (mean CK = 1.55, s.d = .76). These results show that both groups lack skills to identify when and where certain behaviour is appropriate or suitable.

![Figure 2. Meta-behavioural skill levels according to student category](image)

<table>
<thead>
<tr>
<th>Variables</th>
<th>SWOPB Mean</th>
<th>SWOPB Sd</th>
<th>SWPB Mean</th>
<th>SWPB Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declarative Knowledge (DK)</td>
<td>3.91</td>
<td>.74</td>
<td>3.65</td>
<td>.74</td>
</tr>
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<td>Procedural Knowledge (PK)</td>
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<td>Conditional Knowledge (CK)</td>
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<td>1.04</td>
<td>1.55</td>
<td>.76</td>
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<td>.55</td>
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<td>3.33</td>
<td>.62</td>
</tr>
</tbody>
</table>
Table 2 shows the results of independent group sample t-test to compare the meta-behavioural skill scores for the SWOPB and SWPB categories. To avoid an increase in the rate of I-Type error, alpha Bonferroni was used, i.e., 0.05/2 = 0.025. The results of the t-test showed that there was a significant difference between the scores of the students in the SWOPB category \( t = 15.88, p = .000 \) and the students in the SWPB category, who scored higher \((\text{mean} = 3.95) \) as compared to the students in the SWPB category \((\text{mean} = 3.37) \)

<table>
<thead>
<tr>
<th>Student category</th>
<th>N</th>
<th>Mean</th>
<th>Sd</th>
<th>t</th>
<th>dk</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWOPB</td>
<td>394</td>
<td>3.95</td>
<td>.44</td>
<td>1.88</td>
<td>734.80</td>
<td>.000**</td>
</tr>
<tr>
<td>SWPB</td>
<td>395</td>
<td>3.37</td>
<td>.57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance level at \( p < 0.05 \)

**Discussion**

This research started with the assumption that the students in the SWOPB category possessed a better meta-behavioural skill level compared to the students in the SWPB category. This is because the students in the SWOPB category were randomly selected from a sample of students who had never committed disciplinary offences in the school area and therefore could be considered as capable of handling conflicts and crises faced in their everyday lives. The study shows that there are differences in the meta-behavioural skill between the groups, with the result more favourable to the SWOPB group. This study also found that there was a weakness in the level of meta-behavioural skill in both categories of students for the subcomponent of conditional knowledge skill, whose scores were the lowest among other components. It is important to point out that the score for the SWPB group is very low for this component.

According to Borkowski & Krause (1985), only someone who possesses a number of strategies and knows the potential of these strategies can choose to use them wisely. Clearly, knowledge of something is an important aspect in determining the success of a strategy that is to be used. In terms of the meta-behavioural skill, the knowledge aspect is included under the meta-knowledge component and is divided into three parts, namely declarative knowledge, procedural knowledge, and conditional knowledge. All the three knowledge categories must be present
in a balanced state to produce students who are excellent in terms of their meta-behavioural strategy skill. This is especially true for conditional knowledge, which is essential in determining the suitability of a situation before an action is taken or behaviour performed.

For instance, consider what happens when a particular student knows what is good and what is bad (declarative knowledge) and also knows how to perform a good behaviour (procedural knowledge), but lacks the knowledge on when and where the behaviour is appropriate (conditional knowledge). Could he/she achieve the best result for his/her action? In this case, even if someone uses a good meta-behavioural strategy (good at meta-planning, meta-monitoring and meta-evaluation), the phenomenon of doing things right, but at the wrong time still could happen. As Schwonke et al. (2013) stated, the deficiency in conditional metacognitive knowledge may cause students to experience difficulty in performing the right action or behaviour. It is clear that the lack of conditional knowledge will jeopardize the ability to plan, monitor and evaluate the individual’s behaviour effectively.

In this study, it was found that SWOPB only used conditional knowledge at an average level while SWPB used it at a weak level. The level of the use of this knowledge in both categories of students is unsatisfactory; and this could cause them to unsuccessfully plan, monitor and evaluate their own behaviour. Previous studies suggested that the effectiveness of metacognitive skills could be enhanced if they were actively taught to students (Bathgate et al. (2012), unfortunately, teachers do not put enough emphasis on them during the teaching and learning process in the classroom (Saemah et al., 2011). Therefore, it is suggested that this knowledge and skills be promoted among students. The student behaviour in the SWOPB category can potentially be strengthened and the problem of disciplinary offences can be solved if their meta-behavioural skills are nurtured just as effectively as in the enhancement of their learning and academic performance (Susser & McCabe, 2013; Schwonke et al., 2013; Mazumder, 2012). The same can be said of the students from the SWPB category; their behaviour and personality can be enhanced and offensive behaviour can be decreased if these skills are taught and nurtured (Bathgate et al., 2012; Saemah et al., 2011).

**Conclusions**

Metacognitive skills, or in this research context, meta-behavioural skills, are very important skills that should be promoted among students. Based on this research finding, it can be said that students still lack conditional knowledge, which is one
of the important sub-components in the meta-behavioural skill. Knowing what (declarative knowledge) and how (procedural knowledge) is not enough if one does not know when and why it should be applied (conditional knowledge). All the three components of metacognitive knowledge should be emphasized so that students can plan, monitor and evaluate their behaviour effectively. Effort should be geared towards the development of students’ meta-behavioural skills so that they can self-regulate their behaviour, thus decreasing problematic behaviour among students.

References


Childlessness – between Fate and Choice

Abstract

Childlessness in marriage is still socially defined as otherness. It is a deviation from the current cultural standard and – as a consequence – it requires explanation and legitimization, especially when the otherness is deliberate. The aim of the conducted qualitative research was to establish personal definitions of the situation of childlessness in marriage applied by persons aged 50 and older. The study focused on cultural patterns of experiencing and validating this non-standard lifestyle. 21 interviews centered on this issue were conducted. The analysis of the obtained data showed that the most important variables determining the model of experiencing childlessness in marriage by the subjects were the causes of childlessness and the significance of having children in their individual hierarchy of values. In each individual case, the way of experiencing childlessness results from the configuration of the recognized order of motivation and evaluation. It also seems that the order of evaluation is significant to the entire functioning of these persons. It is relatively independent from the objective cause of childlessness.

Keywords: childlessness, infertility, qualitative research, understanding, legitimation

Introduction

Depending on the cause, the literature assumes a basic division into two types of childlessness. One is the childlessness conditioned by medical factors (involuntary childlessness) and the second is the lack of children as an effect of a conscious choice of lifestyle – the so-called voluntary childlessness (Kalus, 2002). Data collected by the World Health Organization suggest that around 10–15% of women at
the reproductive age who desire to have a child, experience primary or secondary infertility lasting longer than 5 years (Mascarenhas et al., 2012). On the other hand, researchers studying contemporary family changes also point to a growing trend of childlessness by choice (Slany, 2002).

Theories concerning human development in late adulthood and old age are usually based on the assumption of a fundamental role of typical life events, related to family formation and raising children – and, later on, grandchildren. In his concept of psychosocial development, Erikson (2002) assumes that the motive power of the human maturing is a psycho-sexual pursuit of procreation. In this context, the lack of children, especially unintentional, constitutes a threatening factor, because it limits the creative possibilities of the individual and deprives them of the experience of procreation.

Childless persons can meet with negative social reactions: stigmatization or exclusion. Lampman and Dowling-Guyer (1995) proved that childlessness is generally evaluated as negative, but the disposition of the respondents is much more pejorative towards childlessness by choice, whereas unintentional childlessness meets also with sympathy and understanding.

The negative valuation of childlessness in marriage is an expression of the strength of pro-family and pronatalistic values. From the point of view of the sustainability of the social system, it is important for the social situations deviating from traditional norms of family life – if their elimination is not possible – to be included in the symbolic universe in force, so that they will not pose a threat to the current standards (Berger, Luckmann, 2010). Normalizing cultural models are produced (Szacka, 2003, p. 78), which indicate how to think, feel and act towards the troublesome social phenomenon. These standards are transmitted in the process of secondary socialization (Szacka 2003, p. 138), which is remarkably intensive towards persons who take up non-typical social roles.

The process of the neutralization of non-standard institutions may take on two forms: therapy and nihilation (Berger, Luckmann, 2010). The aim of the therapy mechanism is to define non-standard situations in socially approved categories. It leads to defining childlessness as a lack, failure in a social gender role and contributes to the medicalization of this phenomenon. In the process of therapy it is assumed that not having children is always unintentional. The proper way of playing the role of a childless person is standardized by psychological conceptions of a crisis situation and the course of the process of adaptation to childlessness, (Kalus, 2002, p. 24).

The nihilation, in turn, relies on negating the reality of phenomena or their interpretation and conferring on them a cognitive status that cannot be treated
seriously (Berger, Luckmann 2010, p. 168). Nihilation is applied towards people who are childless by choice, because they reject the fundamental assumptions that each married couple should have children and each adult human being, especially each woman, desires to have children.

**Research method**

The aim of the presented research was an in-depth study of childlessness as a life experience as well as the detection of varying cultural models of experiencing childlessness in marriage. A qualitative research model in methodological terms of the humanistic coefficient was deemed to be the most adequate for the chosen research purposes (Znaniecki, 1988). A tentative hypothesis was proposed: among persons who experienced marital childlessness for different causes, there will be differences in the definition of their own life situation. In accordance with the ideas of the grounded theory methodology, it was deemed appropriate to limit the initial research conceptualization to broad research issues in order to remain open to emerging empirical data (Konecki, 2000). In order to obtain adequate empirical data, problem-centered interview was utilized (Witzel, 2000, p. 1). Purposive sampling method was selected. The respondents were childless persons over the age of 50, who live or have lived in a formal marriage or informal partnership with a person of the opposite sex for at least 5 years. The empirical data was analyzed using the constant comparative method and the negative case analysis (Konecki, 2000). The sample encompassed 21 persons: 9 men and 12 women. The median age was 65 (range 52 to 85). The median length of relationship was 25 years (range 6 to 55). In most cases, physiological factors were the objective cause of childlessness. This concerned 12 respondents. For the remaining 9 persons the lack of children resulted from their lifestyles.

**Findings**

The analysis of the research material allowed for the isolation of two basic orders of defining the situation of childlessness in marriage. The order of motivation refers to the subjectively conceived reason for childlessness and it includes six categories (Table 1), whereas the order of evaluation stands for the emotional and moral valuation of having children – and it encompasses four categories (Table 2).
In their individual reasons, the respondents usually employed multiple categories of motives, and sometimes also multiple categories of childlessness evaluation.

**Personal definitions of the causes of childlessness**

Table 1. Ways of defining childlessness in marriage according to motivation

<table>
<thead>
<tr>
<th>Causes of childlessness</th>
<th>Number of indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological childlessness</td>
<td>12</td>
</tr>
<tr>
<td>Postponed childlessness</td>
<td>7</td>
</tr>
<tr>
<td>Childlessness by God’s will</td>
<td>6</td>
</tr>
<tr>
<td>Childlessness by choice</td>
<td>5</td>
</tr>
<tr>
<td>Childlessness caused by illness</td>
<td>3</td>
</tr>
<tr>
<td>Childlessness for economic reasons</td>
<td>3</td>
</tr>
</tbody>
</table>

The most frequent causes of childlessness were various physiological reasons. These respondents were mostly persons who desired to have children, were aware of the non-normativity of their situation and received treatment for their reproductive difficulties. Among these respondents, however, there were also persons who underestimated the objective causes of childlessness, drawing attention to their choice in the form of discontinuation of treatment. The statements of the respondents also indicate a definitely negative evaluation of infertility. It is viewed as a trait that lowers the value of a woman or man and requires compensation. When speaking of their infertility, the respondents used depreciating terms: *A bull without balls* (m, 55, se, phⁱ); *Unfit for children* (f, 77, pe, ph). This interpretation is consistent with the traditional understanding of the function of family and gender roles.

The second most frequent interpretation of the cause of childlessness was the postponement of the decision to start a family. This definition of the situation was cited mainly by men (5 persons). The sex of the respondents turned out to differentiate the subjective motives for postponing the decision to have children. For the men, postponing the decision to get married was a result of reluctance to start a family and take up the responsibilities connected with that – or a result of

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¹ Codes of respondents: sex: male (m), female (f); age; education: higher (he), secondary (se), vocational (ve), primary (pe); cause of childlessness: physiological (ph), postponement (po), by choice (ch), illness (il), economic reasons (e).
difficulties with becoming independent from their parents, e.g.: Because I was like, as they say, they called me Casanova. I was more in the parks, to have fun there, and stuff (…) and this bachelor’s life of mine, I liked it, having fun, those parks (m, 66, ve, po). In the case of two women the postponement of the decision was associated with achieving educational ambitions and involvement in professional work.

Another relatively frequent interpretation of the cause of childlessness was seeing it as a result of fate, the will of a force majeure, e.g.: God didn’t give me children, because there was a reason (…) I always say that someone decides for us. Everything in life is for a reason, and we have no influence on that (f, 54, se, ph). This category was often cited by persons who were childless for causes evaluated as independent of their will. In the studied sample, those were exclusively women. Another version of this explanation was seeing childlessness as an effect of the malice of fortune, an incomprehensible and unfair judgment of God: I always say that I wanted to have children (…), but the Lord God refused me this, this pleasure (f, 80, se, ph). The foundation of the non-normative lifestyle upon the socially-propagated faith in God's providence gives it a very strong legitimization. The female respondents subscribing to that interpretation believed in a traditional system of values – for each of them family was a dominant value, and having children was very meaningful.

The next category of having no children is personal choice. This cause was most frequently cited by the persons who consciously planned for childlessness, but also those who discontinued the treatment of infertility. The reasons for choosing childlessness in the studied sample are consistent with the findings of a number of previous studies (e.g.: Agrillo, Nelini, 2008). These were: a sense of incompetence, a fear of doing harm to the child, a fear of responsibility, no felt need, the influence of family experiences, economic reasons, professional ambitions or focusing on a high quality of relationship. The people who were childless by choice had a strong sense of the uniqueness of their lifestyle, at the same time, however, they usually did not see it as deviating from the norm. They opposed the stiffness of the rule of having children, claiming that a complete freedom of choice should operate in that matter: Apparently, for me this imperative of motherhood wasn't dominant. For somebody, this is unimportant. Never in my life have I said to anyone: Why do you have a child? (…) I think that every human being should have this freedom of decision (f, 69, he, ch).

In the studied group there were three persons whose lives were subordinated to an illness or disability and in their interpretation this was the fundamental cause of their childlessness. Not having children was understood by these persons as a consequence of a broader health issue, as an element of adaptation to life with an illness. The ill persons are of the opinion that in their life condition the
lack of children was necessary, because their health would make it impossible to raise a child. The respondents pointing to this category of explanation have a high sense of uniqueness, otherness of their lives. In the case of a situation of illness, childlessness is, on the one hand, associated with a sense of regret and loss, but it is also rationally considered a desired norm in the given situation. These persons feel that they are victims of external circumstances.

The last of the identified categories of subjective causes of childlessness is a lack of children for economic reasons. In the statements of the respondents there were two kinds of material factors interpreted as causes for childlessness. The first one is the fear of lack of financial measures to provide for the children due to a low economic status, and the second is the reluctance to limit one's financial possibilities as a consequence of expenses for the child, when one's consumption aspirations and status are very high. The respondents citing economic causes were strongly concentrating on the insufficiency of financial measures and perceived the material needs of the child as very substantial, lowering the desired standard of living. In their evaluation, this cause was seen as resulting from fate.

Emotional and moral evaluation of childlessness

The second basic order allowing for interpretation of the narrations of the respondents was the emotional attitude to their childlessness and the value of having children in their individual hierarchy of values. Based on this order, four ways of evaluation can be identified (Table 2).

<table>
<thead>
<tr>
<th>Order of evaluation</th>
<th>Number of indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciled childlessness</td>
<td>9</td>
</tr>
<tr>
<td>Preferred childlessness</td>
<td>7</td>
</tr>
<tr>
<td>Unreconciled childlessness</td>
<td>5</td>
</tr>
<tr>
<td>Burdensome childlessness</td>
<td>4</td>
</tr>
</tbody>
</table>

The most frequently cited evaluation of childlessness is becoming reconciled with it. It is the standpoint of the persons who perceived their lack of children as a result of external factors. In their lives, these persons were faced with the necessity to modify their reproductive plans. At that time they mostly felt regret because of not having children, but they worked through their situation and became reconciled with it. They do not exhibit a sense of shame or wrong regarding childlessness.
In that group, childlessness in marriage is evaluated in concordance with the social norm as a negative phenomenon. The interpretation of the personal situation in the categories of norm, however, varies according to the importance attached to having children. The persons for whom parenthood was very meaningful evaluated their family situation as abnormal. This resulted in a strong need to compensate for the lack of norm: *The main reason is, well, unfortunately, a stroke of fate (…) whether you’re sorry or not, you have to make a decision and not brood over it forever (…) well, one simply needs to accept this state, you can’t pity yourself (f, 76, he, ph).* These persons engaged in helping their family of origin and sought alternative forms of meeting their need for caring, such as taking care of the children of their siblings or working with children; whereas the respondents for whom procreation was not a fundamental value did not have the feeling that their family life deviated from cultural norms. These persons attached more importance to the quality of life in a marriage union than to having children from it: *I know also such who are already over 50 and they haven’t been married even once, so with me it’s not yet as bad, because I’ve had a wife (m, 66, ve, po).* Also, the respondents who perceived their childlessness as a result of living with an illness, presented an attitude of reconciliation with not having children: *I became reconciled with it, I don’t deplore that, because I told myself that I don’t have to despair over this and that’s it (…) with my illness that’s for the better that I didn’t have children (f, 65, se, il).*

The second most frequently mentioned evaluation category of lack of children is the preference of childlessness. This evaluation is applied by the respondents who consciously chose childlessness or postponed this decision. The persons preferring childlessness evaluate it in a very positive way. They think that the lack of children brought to their lives a pronounced majority of advantages. They do not experience regret because of childlessness, and without exceptions they have a positive attitude towards their decision. They perceive not having children in the category of freedom from limitations and an opportunity for self-realization. They are satisfied with their way of life and their decision. They describe their life as interesting and active and they are convinced that they owe its shape to childlessness, because parenthood would have deprived them of the means to pursue all their passions. In the experience of these persons, there is no space for a sense of guilt or inadequacy resulting from the non-typical form of their family life. They present a non-standard, postmodern way of thinking about family, in which children are a relative value and do not constitute a necessary fulfillment of a mature marriage: *I was a quality manager in a large enterprise in a construction corporation in Gliwice (…) all our free time were trips (…) theater, meetings (…) I think that with a child I can’t imagine something like that (f, 69, he, ch).*
The persons who, in turn, postponed the decision to have children, think that thanks to childlessness they gained a pleasant, carefree young age and quiet and freedom in the old age: *I was like a free bird, I liked that (...) And if I had children now, I would have to strive for these children, for grandchildren, and it wouldn't be enough because of the paltry pension* (m, 66, ve, po).

The persons who have never become reconciled with the lack of children present an opposite evaluation of the situation. Those are the respondents who wanted to have children very much and who regarded the impossibility of procreation as a result of their own actions or unfavorable fate. They had a decidedly negative attitude to childlessness as a phenomenon. Those respondents experienced strong sadness, anger at themselves and a sense of guilt. The following statement is an accurate illustration of such attitude: *I have never concealed the fact that I miss this child, I have never been like this to speak somewhere with the family: I don't need this, what is it for, it's only a nuisance, in order to build up my person as so happy, because I wanted that. I never say that, that it was my choice. I don't believe that somebody can choose like this, not to have children, it's deceiving oneself, everybody needs a child* (f, 54, he, po).

For them, the deviation from the norm of starting a family is combined with a sense of poverty of life and regret: *As they say, a woman is unfulfilled. Likewise about a man they say that he should build a house, beget a son and plant a tree. So I am also unfulfilled as a woman* (m, 55, se, ph).

These respondents had a strong need to compensate for the lack of children. They demonstrated a strong commitment to infertility treatment and also to helping their family of origin, work with children or other caring behaviors. It seemed that these persons had not worked through their situation psychologically, and that blocked the possibility to become reconciled with their childlessness for them.

The last of the identified categories of evaluating childlessness is a sense of a painful burdensomeness of this situation. The persons presenting this attitude concentrate on the negative consequences of not having children such as the lack of company, help and care. They represent the type of attitudes characterized by a certain instrumentality towards the child as a value: *I always used to think that I would be healthy, that I am healthy, why a child, I will make it on my own. And now, after a brain stroke, paresis, a child would help me, or do the shopping. Now I have to go by myself; now one regrets it* (m, 55, pe, po). This definition of family situation is applied by the persons who decided not to have children in their young age, but after a time they started regretting it – two men whose heath situation became much worse and a woman overburdened by the need to care for her parents. The respondents did not want to have children because they considered them an
unnecessary nuisance. For the most part of their lives they were very content with childlessness, and did not perceive the lack of children as negative or burdensome. In the case of the men, only the change of their health situation turned out to be of importance, and thus the intensity of the felt regret is very high. The lack of full self-reliance and the lack of care caused an overestimation of the significance of having children. The memory of a carefree youth has faded and at present the sense of the burdensomeness of life without children dominates. As for the woman, this experience is much less severe and she still experiences life satisfaction because of lack of children.

Conclusions

The way of experiencing childlessness in each individual case results from a configuration of the employed order of motivation and evaluation. It seems, however, that the order of evaluation has a fundamental meaning for the entire functioning of the respondents. It is relatively independent from the objective cause of childlessness.

When defining and explaining their childlessness, the majority of the respondents referred to the traditional symbolic universe, based on Christian principles and collectivist values concerning the child as a desired and expected goal of family life. The dominant view of family is an institution based on a formal relationship of a woman and a man, called to realize the reproductive function. This norm was referred to even by those respondents who did not attach much importance to having children and allowed the deviation from this norm due to significant external factors. The vast majority of the respondents successfully acquired in the process of socialization models of experiencing childlessness based on the mechanism of therapy. What dominated was the acceptance of childlessness, in accordance with the psychological model of the process of handling this crisis, as well as a negative evaluation of childlessness as a phenomenon. The sense of regret or burdensomeness of not having children also conforms to cultural messages concerning the consequences of childlessness (“In old age there won’t be anybody to hand you a glass of water”).

When it comes to postmodern categories of recognizing childlessness, interpreted as a choice, method of self-realization or development of individuality, they were only employed by the persons who deliberately chose childlessness. It is worth mentioning, however, that the respondents in this study were persons who made their reproductive decisions in the sixties and seventies of the twentieth century.
The persons cited herein can thus be considered the precursors of a new cultural trend that will probably be gaining momentum.

References

Contribution of Student and Demonstration Experiments to the Quality of Students’ Knowledge about Matter in the Initial Chemical Education

Abstract

The aim of the paper is to determine whether there is a difference in student knowledge at all cognitive levels when the content about physical-chemical properties of matter are taught with the use of demonstration and student experiments in the third grade of primary school. Research sample consisted of 142 students. Experimental, comparative and descriptive – analytical methods were used. The survey instrument was a test. The students who had independently performed experiments obtained better results at the cognitive level of analysis, synthesis and evaluation on the final test and retest than the students to whom experiments had been demonstrated by the teacher.

Keywords: demonstration experiments, initial chemical education, student experiments, student knowledge of physical-chemical properties of matter.

Introduction

Primary school students learn chemical content through the integrated content of science. In the education system of the Republic of Serbia students learn the integrated content science through the World around us compulsory subjects (the first and the second grade – aged from 7 to 9) and Nature and Society (the third and the fourth grade – aged from 9 to 11). In the initial chemistry education it is important to enable students to observe (Ahtee, 2009), directly or indirectly, certain natural processes and phenomena (Agranovich, 2013; Lamar, 2012). The
observations can be implemented in two forms (observation is studying objects or phenomena that are in their natural state and observation in experimental conditions). Demonstration experiments are appropriate when students do not have more distinct notions about experiments and how they should be performed, and when a lot of time must be spent if the experiments are performed by students. Experiments should be demonstrated when they are complicated for students’ age, as well as relatively dangerous for the students. The teacher should perform experiments in situations where the effect of demonstrations is more striking than the effect of student experiments. They must also draw students’ attention to the demonstrated phenomena or give them an idea of what they should observe during the experiment. In most cases student experiments are simpler than demonstration experiments. These experiments enable all students in the class to be systematic and thoroughly introduced to experimental techniques. Students’ interest is greater when they perform experiments themselves, because they look forward to what will happen in the experiment, whether the experiment will succeed, etc. Unsuccessful student experiments do not have a negative impact on students, but on the contrary, they motivate them to examine the causes of the failure in order to remove them and then re-perform the experiment in specific directions (Bognar, 2012).

Demonstration and student experiments contribute to the rationalization of time and they can sometimes be used as a means by which questions will be asked to students. Through demonstration and student experiments students develop scientific research spirit, experimental skills and knowledge are developed and children are motivated to study the physical and chemical content (Cvjeticanin, Segedinac and Sucevic, 2011). Demonstration and student experiments must be simple, and the conditions in which they are performed easily explainable to students (Kirikkaya, 2011). When selecting experiments, what must be taken into account is that the experiment should be: methodologically appropriate (meaning that students must come to correct conclusions), methodologically correct (comprehensible, clear and convincing) and methodologically required (without the experiment students would not be able to reason, think or reach a particular conclusion).

**Research methodology**

The research aim was to determine whether there is a difference in student knowledge at all cognitive levels (cognitive levels identified by Bloom) when the content about physico-chemical properties of matter are taught with the use of demonstration and student experiments in the third grade. The main hypothesis
was: Demonstration and student experiments have the same impact on the quality of third grade student knowledge about physical-chemical properties of matter at all cognitive levels. Demonstration and student experiments help achieve high quality knowledge of the physical-chemical properties of matter. The independent variable in the research was learning with the use of demonstration and student experiments. The dependent variable was the quality of student knowledge at different cognitive levels. The measure for this variable was the score at each cognitive level on test (on final test and retest).

Experimental, comparative and descriptive-analytical methods were used in the research. The research technique was testing, and tests (initial, final and retest) were used as a measuring instrument. Each test consisted of 12 tasks which evaluated the six levels of knowledge: the level of information recall (knowledge), the level of comprehension, the level of application, the level of analysis, the level of synthesis and the level of evaluation. At each cognitive level students had two tasks. Test questions for various cognitive levels were taken from Smart tasks (Walker, 2004) and were used in the design of tasks on materials. When analyzing the level of knowledge, two tasks types, i.e. defining terms and marking drawings, were used. For the analysis of the level of comprehension, tasks of making order, drawing and filling in were used. Tasks like making a connection to personal experience, preparation of knowledge in order to change the current situation, the use of other sources of information and finding errors were set for the analysis of the level of application. The level of analysis examined another types of tasks: identifying similarities and differences; determination; classification and tasks of expressing one’s attitude. Tasks to identify the strengths and weaknesses, e.g. questions like: ‘what would happen if...’ and reasoning tasks that were applied in the analysis of the synthesis level. For the level of evaluation, tasks like the interpretation of a drawing were applied. When evaluating the tasks, the rule that tasks requiring higher levels of knowledge have a higher score was applied. The students worked on each test during one school lesson. When analyzing the results the following statistical parameters were used: mean test score, the percentage of obtained scores in relation to the maximum possible, the standard deviation (SD) and coefficient of variation (CV). The statistical significance of the obtained differences between arithmetic means was determined by analysis of variance (ANOVA) or t-test, and for further comparison the least significant difference test (LSD, significant at 1% and 5%) was given.

The sample comprised 142 third-grade students (71 in E group and 71 in D group). The percentage of the students that had particular overall success and particular success in the Nature and Society subject at the end of the first semester,
as well as average mark of all the students in group are shown in Table 1. The average mark of the overall success of the students is similar for both groups. Similar data was obtained when analyzing the success of the students in D and E groups in the Nature and Society subject.

**Table 1.** Research Sample, the overall success of the students and the success in the Nature and Society subject at the end of the first semester

<table>
<thead>
<tr>
<th>Group</th>
<th>Student gender</th>
<th>Overall success in the first semester</th>
<th>Success in the Nature and Society subject</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% of students with mark</td>
<td>% of students with mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>excellent</td>
<td>very good</td>
</tr>
<tr>
<td>E</td>
<td>M</td>
<td>34</td>
<td>22.5</td>
</tr>
<tr>
<td>D</td>
<td>F</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Σ</td>
<td>M</td>
<td>65</td>
<td>23.2</td>
</tr>
</tbody>
</table>

The experiments that were implemented in the D and E groups were the same. They included the content about the physical-chemical properties of matter and were carried out during three weeks (six classes). Two experiments were performed per each class, on average. They were basic (used in acquiring knowledge of the students about the basic physical-chemical properties of matter) and parallel (the comparison of properties of different states of matter). One week before doing the experiments, the teacher gave the students in both groups written instructions of how the experiments should be performed, so that the students could familiarize with the experiments selected for realization. In the class before performing each experiment the teacher checked whether the students understood the instructions and whether they understood every step in the experiment. Particular emphasis was put on what the students should observe in the experiment. After performing the experiments the students in both groups together, with the help of the teacher, during a discussion suggested some conclusions that were written on the board. (Wellington and Grenireson, 2012). At the end of the class, the students recorded in their notebooks the conducted experiments and the conclusions obtained from the results. In doing so, they followed the rules of recording experiments in notebooks. In the E group student experiments were performed. The students formed 18 groups (17 groups consisted of 4 students and one group consisted of...
three students). Each group had a group leader, who coordinated the work of the group and presented to the whole class the results and conclusions obtained after the group had carried out the experiment. All the groups were doing the same experiments. The groups were formed temporarily by the teacher (groups were heterogeneous). The students performed experiments based on written instructions (in the form of instructional sheets), where they could also find questions that they were supposed to answer after the experiment. In the D group demonstration experiments were performed in three groups of students. The teacher did the experiments in each group of students. When the students were not sure about their answers, the teacher did the same experiment again.

Results and discussion

In lower grades of primary school students learn about matter through learning about the characteristics of individual material and water. On this knowledge students need to build new knowledge of the physical-chemical properties of matter. We analyzed their knowledge about individual material and water with an initial test. When comparing the total score on the initial test for the students of each group separately, it could be seen that the students in the D group got 30 scores more (1568 scores) than the students in the E group (1538 scores). The statistical data shows that this difference is insignificant (Table 2). The results of the initial test indicate that there is no significant difference in the knowledge of both groups of students at different cognitive levels. In both groups, the students obtained similar results at the level of knowledge (t=1.113, p=.078), comprehension (t=.811, p=.527), application (t= 1.126, p=.212), analysis (t=.974, p=.478), synthesis (t= 1.742, p=.068) and evaluation (t=1.033, p=.146). The students in both groups were less successful in the tasks at the level of analysis, synthesis and evaluation. The reason for poor student achievement could be explained by the manner in which they had already learned about the content of materials and water. Based on the interviews with the teachers working in the grades in which the survey was conducted, we concluded that the students performed fewer independent experiments. They were mostly individually performed experiments with water, while the experiments with materials were performed by the teachers. Comparing the values of arithmetic means (AS) and standard deviations (SD) for cognitive levels of the students in groups D and E, it is evident that there is no significant difference indicating the equality of prior knowledge about materials and water of both groups of students.
Table 2. Difference in knowledge of students in D group and students in E group in initial test

<table>
<thead>
<tr>
<th>Cognitive level</th>
<th>Group</th>
<th>N</th>
<th>Scores at level</th>
<th>$\bar{X}$</th>
<th>SD</th>
<th>t relation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>E</td>
<td>71</td>
<td>244</td>
<td>3.566</td>
<td>1.2033</td>
<td>1.113</td>
<td>.078</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>246</td>
<td>3.561</td>
<td>1.2194</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>E</td>
<td>71</td>
<td>297</td>
<td>4.283</td>
<td>.5206</td>
<td>.811</td>
<td>.627</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>303</td>
<td>4.477</td>
<td>.4975</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>E</td>
<td>71</td>
<td>388</td>
<td>5.678</td>
<td>1.3255</td>
<td>1.126</td>
<td>.212</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>390</td>
<td>5.695</td>
<td>1.4871</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td>E</td>
<td>71</td>
<td>550</td>
<td>7.955</td>
<td>3.0526</td>
<td>.974</td>
<td>.478</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>555</td>
<td>8.022</td>
<td>3.1022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>E</td>
<td>71</td>
<td>38</td>
<td>0.733</td>
<td>1.783</td>
<td>1.742</td>
<td>.068</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>46</td>
<td>0.862</td>
<td>1.4736</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>E</td>
<td>71</td>
<td>21</td>
<td>0.503</td>
<td>2.0522</td>
<td>1.033</td>
<td>.146</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>28</td>
<td>0.624</td>
<td>1.9603</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After realization of content about the physical-chemical properties of matter with the use of demonstration or student experiments, student knowledge was tested (Table 3). The difference in the total score on the final test was 819 scores in favour of the E group. There was no significant difference in the number of scores that the students in both groups obtained at the level of knowledge, understanding and application. It is significant at the level of analysis, synthesis and evaluation. Similarities and differences in the students’ knowledge at various levels are shown in the value of the t test and p value. The students in both groups were equally successful at the level of knowledge ($t= 2.325, p=.082$), understanding ($t=.995$, $p=.134$) and application($t= 1.715, p=.721$). However, the students in the E group obtained better results than the students in the D group at the level of analysis ($t = 1.929, p = .015$), synthesis ($t = 8.652, p = .011$) and evaluation ($t = 9.275, p = .008$).

Table 3. Differences in student knowledge in D and E groups in final test

<table>
<thead>
<tr>
<th>Cognitive level</th>
<th>Group</th>
<th>N</th>
<th>Scores at level</th>
<th>$\bar{X}$</th>
<th>SD</th>
<th>t relation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>E</td>
<td>71</td>
<td>246</td>
<td>3.815</td>
<td>1.93</td>
<td>2.325</td>
<td>.082</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>242</td>
<td>3.822</td>
<td>2.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In order to test their long-term knowledge, the students in both groups were tested again one month later. Similar results were obtained in the students’ knowledge at the final test. (Table 4). Difference in scores between the E and D groups at the level of analysis, synthesis and evaluation influenced the total score difference on the retest, and it was 683 scores. The students in the E group showed better results than the students in the D group at the same cognitive levels as they had on the final test (Table 4). A significant difference in the student long-term knowledge at the level of analysis (t=3.122, p=.025), synthesis (t= 7.032, p =.008) and evaluation (t = 8.005, p = .003) is confirmed by the value of t-test and p value. The students in both groups were equally successful at the level of knowledge (t= 2.301, p=.084), understanding (t= 1.281, p=.227) and application (t= 2.571, p=.073). In the retest, the students in both groups obtained worse results compared to the results of the final test. In the final test and retest, the percentage of the students who successfully solved the tasks decreased with an increase in the cognitive levels. This is indicated by the number of scores at each cognitive level. The reason was that they did not revise the content about matter between the final test and retest (Sternberg, 2001). After the content of the physical-chemical properties of matter, the students learned the content of movement. This, among other things, made them forget the content about the physical-chemical properties of matter. The retest results indicate that the process of forgetting was slower in the students of the E group than in the D group.
Table 4. Differences in student knowledge of D and E groups in retest

<table>
<thead>
<tr>
<th>Cognitive level</th>
<th>Group</th>
<th>N</th>
<th>Scores at level</th>
<th>$\bar{x}$</th>
<th>SD</th>
<th>$t$ relation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>E</td>
<td>71</td>
<td>250</td>
<td>3.896</td>
<td>2.071</td>
<td>2.301</td>
<td>.084</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>246</td>
<td>3.815</td>
<td>2.103</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>E</td>
<td>71</td>
<td>309</td>
<td>4.721</td>
<td>2.089</td>
<td>1.281</td>
<td>.227</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>300</td>
<td>4.683</td>
<td>2.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>E</td>
<td>71</td>
<td>364</td>
<td>5.364</td>
<td>1.864</td>
<td>2.571</td>
<td>.073</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>358</td>
<td>5.253</td>
<td>1.829</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td>E</td>
<td>71</td>
<td>480</td>
<td>7.068</td>
<td>2.112</td>
<td>3.122</td>
<td>.025</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>155</td>
<td>2.381</td>
<td>8.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>E</td>
<td>71</td>
<td>298</td>
<td>4.296</td>
<td>1.944</td>
<td>7.032</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>108</td>
<td>1.725</td>
<td>9.613</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>E</td>
<td>71</td>
<td>147</td>
<td>2.277</td>
<td>1.763</td>
<td>8.005</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>71</td>
<td>38</td>
<td>0.872</td>
<td>8.058</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The values of the coefficient of variation in the final test (F) and retest (R) for the level of analysis (F:D-17. 74%, E-5. 32%; R: D – 18.05%, E-6.25 % ), synthesis (F:D – 19.78%, E-6.88 %; R: D-15.78%, E – 4.82 %) and evaluation (F:D-18.53%, E – 5.21%; R: D – 18.45%, E – 5.03) indicate that the E group students had an equal knowledge at these cognitive levels to the students in the D group. The students in the E group were more successful than the students in the D group in the final test and retest in tasks in which they were supposed to categorize and differentiate between: states of matter (solid, liquid and gas); chemical and physical changes of matter; mixture and matter (substance) and different types of mixtures. They were better at the tasks where they were supposed to analyze ways for making heterogeneous and homogeneous mixtures and suggest how the components of the mixture can be separated. Also, they showed a better knowledge in the tasks in which they were supposed to propose how to reduce or increase the effect of dissolving some materials (in water and other liquids) and in the task in which they had to evaluate information about liquids (density, evaporation rate, ability to dissolve materials, etc.) and solids (magnetic and electric properties, etc.) based on some criteria. The students in the E group gave better explanations than the students in the D group to the question why certain liquids and solids are used and others are not in the household. They obtained better results than the students in the D group because they have the ability to independently acquire certain knowledge. These results are similar to the findings of other studies (McKee,
Williamson and Ruebush, 2007; Logar and Ferk-Savec, 2011) about the impact of demonstration and student experiments on student knowledge. The students in the E group acquired knowledge through the individually performed experiments in small groups, without the teacher's help. In order to find the answers to questions, they had to pay attention during experiments to conduct them properly. They had to properly collect and analyze all the results of the experiments and draw conclusions on their own in small groups. All this required their maximum involvement at all the stages of learning. Group D lacked all this. They were less involved than the E group, because the teacher performed the experiments in front of them. They learned by watching the experiments. Thus, they remembered fewer results and conclusions of some experiments, compared to the students in group E. The students in the D group remembered less in this way and, as a consequence, they acquired less knowledge that they needed for solving tasks at the level of analysis, synthesis and evaluation. They had fewer opportunities than the E group to implement activities (good presentation of their ideas, solutions, ability of giving good arguments for their point of view, discussion, making decisions, taking initiative, etc.) that could help them to acquire a better knowledge about matter (Wellington, 2012).

**Conclusion**

Student experiments contribute more than demonstration experiments to student knowledge about the physical-chemical properties of matter. Students acquire a better knowledge at the levels of analysis synthesis and evaluation when they do experiments themselves. Demonstration and student experiments have some contribution to improving the quality of students' knowledge about the physical-chemical properties of matter at the cognitive level of knowledge, understanding and application. Student experiments contribute more than demonstration when students need to formulate and build a new knowledge about the physical-chemical properties of matter on the basis of prior knowledge. Student experiments contribute more than demonstration to cooperative learning among students. Therefore, students with poor success acquired a better knowledge of the physical-chemical properties of matter. That is an important objective in the initial chemistry education that should be achieved. Student experiments contribute to a better understanding of different states of matter, differences between pure substances and mixtures, as well as differences between fluids. They contribute more than demonstration experiments for students to understand the relation-
ship between the characteristics of individual materials and their use in everyday life. Students will better understand the impact of various factors on the behavior of substances. Through student experiments more than through demonstration experiments the objectives of the initial chemical education in the structure of matter are achieved. Through student experiments primary school students acquire basic knowledge about the properties of substances more easily. This knowledge could be used later in chemistry, especially when they learn about chemical compounds and chemical reactions. Based on these results, it could be concluded that teachers should use more student experiments to cover the content of the chemical and physical properties of matter.

References


Examination of Clinical Decision Making Perceptions of Nursing Students

Abstract

In the study, clinical decision making perceptions of students who had clinical practice experience were evaluated. The sample was 210 nursing students. Data were collected through the Clinical Decision Making in Nursing Scale. There were significant differences between total scale score and three subscale scores of nursing students. According to one-year follow-up results, it was found that pre-graduation clinical decision making perception scores of students were low. For all of the classes, there is a need to implement different education methods which will elevate students' perceptions of making clinical decisions in accordance with their developmental properties and to evaluate their results.

Keywords: decision making, nursing education, nursing students, Turkey.

Introduction

Decision making is one of the skills that should be acquired by individuals. Decision making includes intelligence, intellectual and cognitive activities; it is a complex structure and requires the use of the critical thinking skill (Taşçı, 2005).

Clinical decision making is defined as selecting the most appropriate, useful, effective and acceptable action among those envisaged for the solution of problems of individuals and families or putting it into practice (Thompson, Dowding, 2002). In clinical decision making in nursing, the nurse should analyze the data related to the clinical situation of the patient, describe the problem, provide care by determining effective and useful interventions out of goal-oriented alternatives, comprehend
the social and emotional difficulties of the patient and the family during the care and reflect this to the care (Tanner, 2006; Azak, Taşçı, 2009). Making a correct and timely decision is of great importance in improving the quality of nursing care and providing safe care to society. Clinical decision making perceptions of nurses are affected by their individual characteristics, critical thinking skills, theoretical and practical knowledge, decision making environment and situation as well as practical experience (Sucu, Dicle, Saka, 2011). Thus, World Health Organisation recommended that “programmes of nursing schools should provide the students the skill of critical thinking and clinical decision making” (World Health Organization, 2009). American Association of Colleges of Nursing (AACN) reported that “an undergraduate programme should prepare graduates to make correct decisions in order to provide a high quality nursing care” (AACN, 2008). Clinical decision making is one of the fundamental skills to be acquired by students in the nursing education.

In consideration of the research into clinical decision making perceptions, it was reported in the study conducted by Jenkins (1983) with seniors, juniors and sophomores that their total scores of Clinical Decision Making in Nursing Scale (CDMNS) and scores of three subscales were similar. However, it was detected that the scores of the subscale “search for alternatives or options” were significantly different. It was stated that the difference resulted from the subscale scores of seniors. Bynes and West (2000) evaluated the clinical decision making perceptions of undergraduate nursing students in Australia. It was found that the CDMNS scores of the students were moderate in all the subscales except in the subscale of “search for information and unbiased assimilation of new information,” in which their decision making perceptions were high. Baumberger-Henry (2005) evaluated the effect of four different education methods applied to nursing students in the USA. There was not a significant impact of education methods on the CDMNS scores (155.13±12.52; 152.04±10.90; 154.77±13.83 and 156.16±11.38). In the study conducted by Krumwiede (2010), The CDMNS scores of senior nursing students was found to be 147.99±10.19. It was evaluated that the subscale scores of “search for alternatives or options”, “canvassing of objectives and values”, “evaluation and reevaluation of consequences” and “search for information and unbiased assimilation of new information” were 37.04±2.81; 38.00±3.92; 36.19±3.22; 36.76±3.037 respectively. Girot (2000) compared the clinical decision making perception scores of nurses and nursing students in England. In this research, the CDMNS score of seniors was found to be 147.21±11.05. It was evaluated that the subscale scores of “search for alternatives or options”, “canvassing of objectives and values”, “evaluation and reevaluation of consequences” and “search for information and unbiased assimilation of new information” were 37.32±2.91; 35.84±2.81; 37.26±4.75;
36.79±2.94 respectively. There was no significant difference between the CDMNS and subscale scores of students and nurses. It was found out that the CDMNS and subscale scores of nurses were similar to those of seniors (Girot, 2000).

In the studies found in the literature, it is generally seen that the CDMNS score levels of nursing students were 156.16 and 147.99. However, in the Turkish literature there is no study evaluating the clinical decision making among undergraduate nursing students. This research was carried out to evaluate clinical decision making perceptions of undergraduate nursing students by using the CDMNS. It was thought that the results of this research would provide data for the evaluation of clinical decision making perceptions, which is deemed necessary as a result of nursing education both in Turkey and in the world.

In this research, answers were sought to the following questions:
1. What are the clinical decisions making perceptions of sophomores, juniors and seniors?
2. When juniors are examined longitudinally, what is the development in the pre-graduation clinical decision making perceptions?

Methods

Type and Place of Research
This is a descriptive, cross-sectional and analytical study. The research was conducted in 2010 in a nursing school where an integrated curriculum programme was applied and a problem-based learning (PBL) education model was used. PBL model is a student-centered method where the student assumes responsibility for learning and the educator acts as a guide. Sophomores and juniors analyze the problem given in the scenario prepared for the targets of integrated curriculum in the PBL session. Seniors received 24-hour internship practice, a four-hour theoretical PBL session and two-hour elective courses a week in the fall and spring terms. In the PBL session, the students tried to analyze a real case and one of their experiences/problems via a reflective approach.

Research Sample
The research was conducted on the undergraduate nursing students receiving education in the school of nursing. The research sample consisted of 216 nursing students who were sophomores (n: 63), juniors (n:83) and seniors (n: 70) with clinical practice experience. Freshmen were not included in the research sample as they did not have any clinical practice experience.
Selection and Description of Participants

The research was carried out at two stages. At the first stage of the research, data were collected from the students through the CDMNS. 210 students filled in the scale completely in the research. 6 students were excluded from the sample as they did not fill in the CDMNS completely. In this study, Power calculation based on the research data was made by using one way ANOVA test and total scale score was found out to be 0.86 (alpha: 0.05, CI: 95 %, assumed SD: 10.42; assumed mean difference: 7.23).

At the second stage of the research, clinical decision making perceptions of the juniors were evaluated longitudinally three times. The first measurement was carried out at the end of the third-grade, the second measurement was performed at the beginning of the fourth-grade and the third measurement was performed at the end of the fourth-grade during the internship period, one week before the graduation. This follow-up is of critical importance as it shows the impact of internship practice performed by the juniors in the fourth-grade on the clinical decision making perceptions. The impact of group differences was examined with the longitudinal examination of the same group students. With the longitudinal examination of the students, an answer was sought to the change in their pre-graduation clinical decision making perceptions. In the research, data were collected from 80 juniors. 45 students were reached in the follow-up of the next year and data were collected. 35 students were excluded from the research since 25 students did not take part in the study and 10 students could not fill in the scale correctly. Only 56.3 % of the students were reached.

Research Ethics

Approval was received from the ethics committee of the nursing school for the research and permission was obtained from the management of the nursing school for practice. The objective of the research and confidentiality of the data were explained verbally to the students and it was also made clear that they could leave the research whenever they wanted. Verbal and written approval was obtained from the students who accepted to participate in the research voluntarily.

Data collection tools

The data of the research were collected with the use of the “descriptive characteristics” consisting of three questions and the “CDMNS”. The CDMNS was applied to the students upon completion of the clinical practice and students answered the scale themselves.
**The Clinical Decision Making in Nursing Scale (CDMNS)**

The CDMNS was developed by Jenkins (1983) in America for nursing students. This scale describes the clinical decision making perceptions of nursing students on the basis of their own expressions (Jenkins, 2001). In the original study where the scale was developed, the scale items were evaluated by educators specialised in undergraduate nursing education in terms of content validity and the items on which a consensus was reached were included. It was stated that Cronbach's alpha value of the original scale was 0.83 and four factor structure explains the 72.3 % of total variance in the explanatory factor analysis (Jenkins, 1983).

The CDMNS consists of 40 items and four subscales. The subscales of the scale are “search for alternatives or options”, “canvassing of objectives and values”, “evaluation and reevaluation of consequences”, “search for information and unbiased assimilation of new information”. Each subscale comprises 10 items. The CDMNS is a five-point Likert-type scale (1=never to 5=always). 18 items of the scale are reversed and the options range from never to always. The total scale score varies between 40 and 200. Each subscale score varies between 10 and 50. There is no cutting point. A high score from the scale indicates a high decision making perception while a low score demonstrates a low and negative decision making perception (Jenkins 1983; Jenkins, 2001).

In Turkey, a reliability and validity study of the CDMNS was carried out by Durmaz and Dicle (2012). Cronbach's alpha value of the CDMNS which was adapted into Turkish was 0.78, while item total correlation coefficients of the scale items were found between 0.139–0.565. A confirmatory factor analysis showed that the scale had a consistent factor structure with the original scale. Thus, the items with low correlation were not excluded from the scale upon the suggestions of specialists (Durmaz, Dicle, 2012).

**Data Evaluation**

Data were evaluated with the use of statistical software programmes. CDMNS total and subscale scores were examined by classes with the use of One-Way ANOVA and Tukey HSD test. At the second stage of the research, One-Way ANOVA for Repeated Measures at repetitive measurements and t test at Bonferroni corrected paired samples were used for CDMNS total scale and subscale scores evaluated by following one year later among juniors.
RESULTS

The mean age of the students was 21.13 (±1.07) years where 28.6% of the students were sophomores (n:60), 38.1% of the students were juniors (n:80) and 33.3% of the students were seniors (n:70). Table 1 shows the comparison of the CDMNS and subscale scores of the nursing students at the first stage of the research.

The students’ scores of CDMNS and their scores in the subscales of “search for alternatives or options”, “canvassing of objectives and values”, “evaluation and reevaluation of consequences” were examined and the difference was found to be significant. On the other hand, the students’ scores in the subscale of “search for information and unbiased assimilation of new information” were found to be similar and the difference among them was insignificant (Table 1).

A further analysis (Tukey HSD) was performed to determine which class accounted for the difference between the students’ total CDMNS and subscale scores. A significant difference due to the juniors was determined between the CDMNS scores of the sophomores and juniors. However, the difference detected in the subscale of “search for alternatives or options” was attributed to the sophomores; the difference detected in the subscale of “canvassing of objectives and values” and that of the subscale of “evaluation and reevaluation of consequences” was attributed to the juniors (Table 1). The CDMNS scores of the juniors were found out to be higher than the other classes.

At the second stage of the research, clinical decision making perceptions of the students were monitored longitudinally for two years (Table 2). When the development levels of the students were examined longitudinally, the differences between the scores of CDMNS and the scores in the subscales of “canvassing of objectives and values”, “evaluation and reevaluation of consequences”, “search for information and unbiased assimilation of new information” were found out to be significant. The scores in the subscale of “search for alternatives or options” were determined to be similar and the differences between them were insignificant.

Further analysis (Bonferroni) was carried out in order to determine difference between the total CDMNS and subscale scores obtained following the longitudinal follow up of the students. It was determined that the difference between the CDMNS scores resulted from the scores of the juniors. The difference in the subscale of “canvassing of objectives and values” also resulted from the scores of the juniors, while the difference in the subscale of “evaluation and reevaluation of consequences” was found out to result from the pre-graduation scores of the seniors. Finally, the difference in the subscale of “search for information and unbiased assimilation of new information” was attributed to the scores of the juniors (Table
2). It was observed that the scores obtained by the juniors were higher than those the same students obtained in the final year.

**Table 1. Examination of nursing students' CDMNS and subscale scores**

<table>
<thead>
<tr>
<th>The CDMNS and Subscale</th>
<th>Sophomores (n:60) X±SD</th>
<th>Juniors (n:80) X±SD</th>
<th>Seniors (n:70) X±SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for alternatives or options</td>
<td>38.95±3.57</td>
<td>41.42±3.16</td>
<td>41.01±3.23</td>
<td>10.48</td>
<td>0.00*</td>
</tr>
<tr>
<td>Canvassing of objectives and values</td>
<td>38.86±3.19</td>
<td>40.91±3.15</td>
<td>39.28±3.19</td>
<td>8.39</td>
<td>0.00*</td>
</tr>
<tr>
<td>Evaluation and reevaluation of consequences</td>
<td>38.95±3.85</td>
<td>40.72±3.61</td>
<td>39.81±3.58</td>
<td>4.04</td>
<td>0.01*</td>
</tr>
<tr>
<td>Search for information and unbiased assimilation of new information</td>
<td>40.13±3.6</td>
<td>41.07±3.17</td>
<td>40.28±2.74</td>
<td>1.91</td>
<td>0.15</td>
</tr>
<tr>
<td>CDMNS total</td>
<td>156.90±11.11</td>
<td>164.13±10.17</td>
<td>160.40±9.98</td>
<td>8.40</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*α: 0.01

**Table 2. Longitudinal examination of nursing students’ CDMNS and subscale scores**

<table>
<thead>
<tr>
<th>The CDMNS and Subscale</th>
<th>Juniors (n:45) X±SD</th>
<th>Seniors (n:45) X±SD</th>
<th>Pre-graduation (n:45) X±SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for alternatives or options</td>
<td>41.64±3.03</td>
<td>41.33±2.98</td>
<td>39.95±4.42</td>
<td>2.70</td>
<td>0.07</td>
</tr>
<tr>
<td>Canvassing of objectives and values</td>
<td>40.64±3.10</td>
<td>37.86±3.14</td>
<td>37.20±3.14</td>
<td>32.28</td>
<td>0.00*</td>
</tr>
<tr>
<td>Evaluation and reevaluation of consequences</td>
<td>40.68±3.35</td>
<td>41.86±3.94</td>
<td>38.93±6.20</td>
<td>4.44</td>
<td>0.01*</td>
</tr>
<tr>
<td>Search for information and unbiased assimilation of new information</td>
<td>41.08±3.09</td>
<td>38.66±2.94</td>
<td>36.64±4.17</td>
<td>27.88</td>
<td>0.00*</td>
</tr>
<tr>
<td>CDMNS total</td>
<td>164.06±9.76</td>
<td>159.73±9.52</td>
<td>152.80±15.87</td>
<td>17.23</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*α: 0.01


**Discussion**

**First Stage**

In the research, the CDMNS scores of the students were examined by classes. In general, the scale and subscale scores of the students were found similar among the juniors and seniors. However, significant differences were found between the scale and subscale scores of classes. A significant difference was also detected among the total scale scores as well as the subscales of “canvassing of objectives and values” and “evaluation and reevaluation of consequences”. It was seen that the difference resulted from high clinical decision making perceptions of the juniors. On the other hand, the difference detected in the subscale of “search for alternatives or options” originated from the sophomores who had low scores. A significant difference could not be found among the scores of the subscale of “search for information and unbiased assimilation of new information”. The scores obtained by the students in three classes in this subscale were similar. Students are expected to search for the necessary information since clinical practice environment is also a learning environment. Thus, the scores of students can be similar. The results of this research could not be discussed due to the insufficiency of data in our country. However, when compared to the study conducted by Jenkins (1983), it was found that scale and three subscale scores were identical by classes. The researcher reported that the difference was significant only in the subscale of “search for alternatives and options” and it was attributed to the seniors.

However, in this research, the difference between the classes in the subscale of “search for alternatives or options” results from the sophomores, who had the lowest score. In spite of this, there was no difference between the scores of the juniors and seniors. Since the sophomores work in the clinic for the first time, provide care to a limited number of patients, have difficulty in coping with new situations that they experience and also have difficulty in clinical decision making, their CDMNS scores may be low.

However, it is seen that the juniors gain experience in providing care to several patients in clinical practice and perceive themselves stronger and more competent in making correct decisions for problems of patients. Besides, the fact that the juniors study with their educators might have affected their decision making process in a positive way. On the other hand, in the fourth-grade internship practice, the students assume responsibility that is almost identical to that of a nurse, the number of patients varies between 12 and 16 and they need a lot of information that they should learn in the PBL model. It is thought that seniors lack the skill of making the correct critical decision to determine the effective interventions for
patient problems as they cannot meet all of these requirements at a time. This can explain why the clinical decision making perceptions of the seniors were similar to those of the juniors.

The scores of the students participating in this study (160.40±9.98) were higher than the scores of the students participating in the studies conducted by Girot (2000), Baumberger-Henry (2005) and Krumwiede (2010). In the PBL programme, students are made to learn the skills of developing hypotheses in face of new situations, determining learning requirements, doing research and selecting the correct and necessary information. We think that the students developing these skills have improved clinical decision making perceptions. These results may imply that the PBL programme develops clinical decision making perceptions of students.

**Second Stage**

At this stage, the CDMNS scores of the juniors were evaluated following the start of the fourth-grade education and just before graduation in order to examine how their clinical decision making perceptions were affected in the upper grade. Significant differences were detected between the students’ total scale scores as well as their scores in the subscales of “canvassing of objectives and values”, “evaluation and reevaluation of consequences”, “search for information and unbiased assimilation of new information”. However, a significant difference could not be found between the students’ scores in the subscale of “search for alternatives or options”. At the end of further analysis, it was detected that the difference resulted from the scores of the juniors in the “total scale scores” as well as the subscales of “canvassing of objectives and values”, “search for information and unbiased assimilation of new information”. It was also determined that the difference in the subscale of “evaluation and reevaluation of consequences” resulted from the pre-graduation scores of the seniors.

The CDMNS scores obtained by the students when they started to receive education in the fourth-grade and before graduation were found to be lower than their scores in the junior grade. In the pre-graduation internship period, students provide care to 12–15 patients and assume responsibility similar to that of a real nurse. Students can evaluate themselves as incompetent while exerting efforts to adapt to this new situation. In the study conducted by Girot (2000), there was no difference between the scores of nurses and seniors. The findings of Girot’s study (2000) show similarity to the pre-graduation decision making scores of the students in our study. In another research, it was reported that inexperienced nurses cannot detect changes concerning the situation of the patient and cannot identify details (Taylor, 1997). Since intern students consider themselves as newly
recruited nurses, their decision making perceptions may be low. Furthermore, it is possible that the CDMNS scores were not high as seniors see nurses as role model in practice. This situation relies on the limited nature of learning based on education and experience.

**Conclusion**

It can be concluded that decision making perceptions of sophomore nursing students develop, clinical decision making perceptions of juniors improve as they develop the skill of managing 2–3 patients independently in the clinic and seniors evaluate their decision making perceptions lower due to the increase in their requirements in face of different clinical cases encountered in the internship practice. When the juniors were followed-up for a whole year, their clinical decision making perceptions reduced in the fourth-grade. The increase in the number of patients in the final year as well as the increase in responsibilities might have caused the students to consider themselves as incompetent. In all of the three classes, there is a certain need for implementing different education methods that will promote students’ clinical decision making perceptions in accordance with their developmental characteristics and evaluating the results both quantitatively and qualitatively.

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Effects of PBL Implementation on Teaching of Geography in High School

Abstract

Problem-Based Learning (PBL) represents a major development and change in educational practice that continues to have a large impact across subjects and disciplines worldwide. PBL is a successful teaching and learning strategy used to engage students in deep rather than surface learning and where the learning is student focused rather than teacher focused (Biggs, 1999). The paper presents the comparison of PBL with traditional learning in the teaching of geography in high school. Comparative analysis of the results of the pedagogical experiment, which included three high schools, 14 classes with 339 students, is carried out. In the statistical analysis of data, t-test was used to check the hypothesis on the differences of the arithmetic means. The results of the final test showed that there was a significant difference in the arithmetic means between the students who had taken a PBL course and the students who had taken a traditional course. It can be concluded that PBL has a positive impact on improving student achievement in the learning of geography in elementary and secondary schools.

Keywords: problem-based learning, teaching methods, geography teaching, group work

Introduction

In this paper we describe the use and implementation of problem-based learning (PBL) in the teaching of geography in high schools in Novi Sad. Many demands of modern teaching practice can be met by the right choice of methods, forms of
work, and by appropriate use of modern teaching technologies. In order to make students learn more efficiently and acquire higher quality knowledge in classes, the teacher has to stimulate the students’ activity. This is not always easy because students differ in their prior knowledge, psychophysical characteristics and abilities. Problem-based learning is one of the ways to achieve success in learning which takes into account students’ individual abilities. We used the highly structured seven-step PBL procedure introduced at Maastricht University. The purpose was to monitor the students’ individual learning processes and their experiences with the PBL group work. The way in which the PBL method was carried out is described. In order to measure the learning outcome from the students’ point of view, learning methods were evaluated. Quantitative measurements from a questionnaire focusing on the student’s learning approach were used. The presented experiment showed that this form of work contributed to a greater success of students in mastering geographical contents.

Research General Background

Problem based learning was popularized during the 1960s as a result of research by Barrows (Barrows & Tamblyn, 1980). Initially PBL was introduced at McMaster University and Case Western Reserve Medical Schools, and during the 1970s in medical schools, e.g., at Newcastle (Australia), Maastricht and New Mexico Universities. As an approach to learning, PBL has spread across the world since the 1970s (Savin-Baden, 2000) and is currently practiced in the United States, Canada, Europe, Singapore and Australia (Dolmans et al., 2005; Savin-Baden, 2000; Schwartz et al., 2001). Problem-based learning has been introduced to all of the health sciences, engineering, business, science, agriculture and education (Boud & Feletti, 1991; Schwartz et al., 2001). A special question is how widely has problem-based learning been used in geography, a discipline which is rather remote from the disciplines in which it originally flourished – medicine and engineering. In their study, Powson et al. (2006) offered some answers to these questions. Also, implementing a problem-based learning approach in teaching geography was considered by many authors, e.g., Chappell (2001), King (2001), Savin-Baden (2001), Fournier (2002), Sproken-Smith (2005, 2008), Cachinho (2008).

Problem-based learning (PBL) is one of the clusters of recent innovations in active learning, with a wide range of positive outcomes for students (Powson et al., 2006). Further, Agnew (2001) points out that the supporters of such innovations mainly declare that they promote profound learning through a better
understanding of the concepts and skill development, as well as encourage student participation, motivation and inspiring classes. These authors also consider PBL as a learning method and strategy or as a curricular philosophy (Maudsley, 1999). Problem-based learning represents a major development in educational practice that continues to have a large impact on subjects and disciplines worldwide. Duch, Groh, and Allen (2001) described the methods used in PBL and the specific skills developed, including the ability to think critically, analyze and solve complex, real-world problems, to find, evaluate, and use appropriate learning resources; to work cooperatively, to demonstrate effective communication skills, and to use content knowledge and intellectual skills to become continual learners.

Problem-based learning, as a system of procedures and resources, enables creative participation in the process of new knowledge acquisition. Problem solving is an activity which contributes to the formation of creative thinking and cognitive activities, which is of great importance for the versatile development of personality. In problem-based learning, new solutions are sought through thinking activities of different kinds and combinations. In problem solving, every student, or a group of students working together, can choose their own way and mode of work. The process involves engagement of most complex thinking activities, as the problem encountered requires responding in a new way.

Research Methodology

Research Problem

Although it is difficult to give a precise definition of PBL, it is possible to list some fundamental principles of PBL (de Graaff, 2003). It starts with a problem and includes participant direction, experience, activity, interdisciplinarity, exemplarity and group work. The problem space, domain and context have to be analyzed, and problem definition and requirements need to be defined. Team members play different roles, which must be clear to everybody. A team working together is much more powerful than individuals working alone. Brainstorming and creative work in a free and open atmosphere induce innovative ideas and solutions. The learning process is iterative, and a somehow structured process is necessary in order to deliver in due time.

This paper concerns PBL in the teaching of geography in high schools. The goal was to create a situation in which students learn individually, guided by the teacher. The objective was to investigate the contribution of the above model to mastering geographical contents, compared to the traditional way of work.
Research Aims

The aim of this research was to investigate the effects of the implementation of PBL on geography teaching in high schools. The educational content for this research was the teaching units “Chemical and physical properties of seawater” (first experimental group), “Australia and Oceania” (second experimental group) and “The Pannonian Plain” (third experimental group).

These teaching units provide numerous possibilities for a creative approach to presentation. Textbooks were used (Гавриловић & Гавриловић, 2009, Ђурић, 2004, Родић, 2003), as well as data, photographs, and sketches collected on the Internet, along with some materials prepared by the teacher.

In order for the group work to bring about the desired positive results, the subject matter of each teaching unit was divided into logical subunits. The task of each group was to define the corresponding geographical objects and phenomena, present the pertinent numerical data in the form of tables, mark their position on the blank chart, attach photographs (if any), and comment on their economic and tourist significance.

In order to achieve the planned research aim, the following tasks had to be undertaken:

- Initial testing of the students and comparing their general success at schools and success in geography shown by their grades, in order to establish their prior knowledge of geography.
- Design of appropriate teaching materials for problem-based learning and group work.
- Conducting a pedagogical experiment with parallel groups and introducing an experimental factor – problem-based learning and group work.
- Final testing for establishing the efficiency of experiments in knowledge building.

Research Hypothesis

By introducing an independent variable – problem-based learning, in the experimental groups, we intended to determine its effect on the students’ knowledge. The null hypothesis was formulated as “There is no statistically significant difference in the average points between the experimental and control groups“. The arithmetic means were compared using t-test and using the SPSS and MS Excel software packages.

Research Sample

The experiment was carried out in the school year 2011/12 and encompassed 339 students from three high schools in the city of Novi Sad, Serbia. These students
formed three experimental groups: E1 (40 students from two first grades), E2 (62 students from three second grades) and E3 (43 students from two third grades), and three corresponding control groups K1 (56 students from two first grades), K2 (80 students from three second grades) and K3 (58 students from two third grades). The experimental groups consisted of 145 students, and the control groups of 194 students.

The general success at school and the success in geography reflected in the students’ grades show that in the experimental and control groups there were students with similar knowledge. The groups were uniform as there was no statistical difference between them in respect of the marks either in geography or the average mark in all other subjects. Also, equalization of the groups was made with the use of a knowledge test.

**Instrument**

The instrument used in this research was a test specially designed for this investigation. The test consisted of 36 questions and the maximum score was 72 points. In order to check the reliability of the measuring scale, Cronbach’s Alpha was used. Ratio over 0.7 was considered acceptable, and coefficients greater than 0.8 were considered good. In this study for 36 variables that related to the various elements of geography knowledge, Cronbach’s Alpha was 8.66, and it was concluded that the measurement scales used were reliable.

**Phases and procedures in investigation**

The research consisted of three phases. In the first phase, initial testing and group equalizing took place (autumn 2011). In the second phase, the control groups attended a lecture presented in the traditional way and the experimental groups did 90-minute group work. In the third phase, final testing was performed with both the control and experimental groups. The test was given 7 days after the lecture, i.e. in the subsequent class.

The procedure described here applies to the teaching unit “Australia and Oceania”. Teaching units “Chemical and physical properties of seawater” and “The Pannonian Plain” were handled in the same way.

In each class, the students were divided into seven groups, according to their seats. The groups consisted of 3, 4 or 5 students.

At the beginning of the group work, each group obtained written materials from the teacher, with specific questions, tasks, data, photos, sketches and figures, and each student in the group was assigned a specific task by the instructions. The teacher gave some additional instructions and appointed a leader in each
group, and the group leader obtained a table to be filled in. Group members were
supposed to put their heads together, to split the task into smaller units, to work
cooperatively, and to prepare the report about their work. Besides, they were told
they could also use common materials prepared for the whole class – geographical
maps hanging in the classroom, atlases, encyclopedias and the Internet.

A number of photographs, drawings and sketches were copied and distributed
to the students. Short texts about Cook, Magellan, George Harrison and his chro-
nometer and about Vasco da Gama were also given. Additionally, several short news
items like: the one of March 11, 2011 at 15:39 | cdc/if] photo: afp Earthquake in
Japan: Earth axis shifted by 10 cm; January 17, 2011, 12:59 (Srna agency): Australia.
The worst natural disaster in the history of the continent; July, 18, 2010, 17:27 (Beta
agency): photo: Reuters -Two intense earthquakes struck Papua New Guinea, as well
as the blank maps of the world and its parts were also made available. Abundance
of historical data related to Magellan’s, Cook’s and Vasco da Gama’s journeys, the
Titanic disaster, as well as to the most famous channels and seas, were also used to
arouse the students’ interest in the presentation of given teaching units.

The questions posed to each group were intended to enable easier and simpler
revealing and tracing the part of knowledge necessary to answer them. The basic
questions were of a problem type and they were almost always implied in the title
of the teaching unit or some part of it. Here are some of these questions:

1. Look at the map of Cook’s journeys. Why did Cook travel so? Did Cook get lost
during his journeys or was he looking for something? Explain.
2. What does the word “Aborigine” mean? What is the characteristic of the
Aborigines?
3. One part of Australia has recently been struck by a natural disaster. Which
part was it and what was that disaster?
4. Name some animal species which you can meet only in Australia.
5. Which tropical plants are characteristic of Oceania?
6. The population of Australia and Oceania in 1800 was 0.22% of the world’s
population, and in the year 2000 about 0.54%. How can we explain this
increase?
7. In Oceania, earthquakes are frequent. How can this be explained?

In these questions, there are some data which can be found in the student
textbook (Гавриловић & Гавриловић, 2009). However, some good answers could
not be given by the students based only on their knowledge and the books. They
were made to realize that they were missing certain knowledge, and this created
a problem. Hence, they not only had to solve a demanding task based on their
existing knowledge, even by doing their best, but a problem that could be solved
only through dealing with the problem itself. So, the students were brought into
the situation to search for new knowledge, to acquire new information, formulate
the stages of solving the problem, and arrive at a solution that is to be presented.

The experimental work, as one block class, lasted 90 minutes. In the preceding
class, the teacher heralded the forthcoming teaching unit and the class was going
to be different from the previous classes. It was pointed out that the students were
going to present the unit by themselves and draw conclusions under the guidance
of the teacher. They were also told about their obligations related to this. They were
asked to bring drawing accessories, pocket calculators and the geography textbook,
as well as their school atlases, possible literature sources and the results of their
Internet search (text, sketches and other pertinent data).

After 40 minutes of joint work, the group had to present its report in the form
of a poster. The time for poster presentation was 20 minutes, during which all the
students, together with the teacher, inspected and discussed the posters.

At the end, after all the groups had presented their results, the teacher made
a short summary of the teaching unit, emphasizing the most important points.
In that way, all the students were able to get the impression about the results of
the group work and revise the unit once again. When evaluating the students’
work, the teacher gave her/his opinion about the presented contents and suggested
alternative forms of presentation. In that way, the teacher was also guiding the
students’ future work.

Applied methods

In this research, the method of pedagogical experiment with parallel groups was
used. During the pedagogical experiment, the following methods were applied:
method testing, monologue and dialogue method, group work. Results were sta-
tistically processed and presented using the SPSS and MS Excel software.

Research Results

For the sake of brevity, the teaching units are denoted by HF for “Chemical and
physical properties of seawater“, AO for “Australia and Oceania“ and PP for “The
Pannonian Plain“.

Initial testing

Initial testing was conducted with the aim to establish if the groups had an
equal prior knowledge level. Basic statistical parameters of achievement of the
experimental and control groups obtained by initial testing are shown in Table 1. Comparison of the average scores of the control and experimental groups reveals that there is no statistically significant difference between the groups ($p = 0.067$ for HF, $p = 0.993$ for AO and $p = 0.915$ for PP students in the 95% confidence level). This indicates that the groups were equal before conducting the planned pedagogical experiment.

<table>
<thead>
<tr>
<th>Teaching unit</th>
<th>Group</th>
<th>Number of students</th>
<th>Average points</th>
<th>Standard deviation</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>E1</td>
<td>40</td>
<td>59.45</td>
<td>4.47</td>
<td>-1.98</td>
<td>0.067</td>
</tr>
<tr>
<td></td>
<td>K1</td>
<td>56</td>
<td>61.75</td>
<td>6.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AO</td>
<td>E2</td>
<td>62</td>
<td>61.45</td>
<td>7.52</td>
<td>-0.01</td>
<td>0.993</td>
</tr>
<tr>
<td></td>
<td>K2</td>
<td>80</td>
<td>61.46</td>
<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>E3</td>
<td>43</td>
<td>63.14</td>
<td>3.88</td>
<td>0.107</td>
<td>0.915</td>
</tr>
<tr>
<td></td>
<td>K3</td>
<td>58</td>
<td>63.05</td>
<td>4.24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Final testing**

The knowledge test was aimed at getting an insight into the students’ success in mastering the given teaching unit, and, based on the statistical indicators, looking for possible differences. This served as the basis for drawing conclusions about the potential contribution of the model to a more successful mastering of the given geographical contents. The questions were formulated in the same way as in the textbook.

The basic statistical parameters of the achievement of the control and experimental groups obtained in the final testing are presented in Table 2. Based on the obtained data, the null hypothesis was checked, i.e., if there is no statistically significant difference in average points between the experimental and control groups.

By comparing the results between the first experimental and control groups, the null hypothesis can be rejected with the 95% confidence level, since $p < 0.05$. The same conclusion also holds in the case of the second and third groups. This means that there is a statistically significant difference in the average points, i.e., the control groups had statistically significantly lower average points.

The results of the knowledge test are an illustrative proof that the experimental groups mastered better the given teaching unit.
Table 2. Results of the experimental and control groups on the final test

<table>
<thead>
<tr>
<th>Teaching unit</th>
<th>Group</th>
<th>Number of students</th>
<th>Average points</th>
<th>Standard deviation</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>E1</td>
<td>40</td>
<td>62.33</td>
<td>5.25</td>
<td>2.40</td>
<td>0.0184</td>
</tr>
<tr>
<td></td>
<td>K1</td>
<td>56</td>
<td>59.13</td>
<td>7.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AO</td>
<td>E2</td>
<td>62</td>
<td>56.48</td>
<td>7.19</td>
<td>2.20</td>
<td>0.0389</td>
</tr>
<tr>
<td></td>
<td>K2</td>
<td>80</td>
<td>53.01</td>
<td>11.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>E3</td>
<td>43</td>
<td>68.05</td>
<td>2.18</td>
<td>4.28</td>
<td>0.0002</td>
</tr>
<tr>
<td></td>
<td>K3</td>
<td>58</td>
<td>65.64</td>
<td>3.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

Many demands of modern teaching practice can be satisfied by the right choice of methods, forms of work, and by appropriate use of modern teaching technologies. In order to make students learn more efficiently and acquire higher quality knowledge in classes, the teacher has to stimulate the students’ activity. This is not always easy because students differ in their prior knowledge, psychophysical characteristics and abilities. One of the ways to achieve success in learning, which takes into account students’ individual abilities, is problem-based teaching.

The presented experiment showed that this form of work contributes to a better success of students in mastering geographical contents. The effort that the teacher should make in preparing and conducting teaching in a described way is not too big, and it notably contributes to a better teaching process, and the final success of the students.

The success of the application of this method depends on many factors. First of all, it is important to choose a good problem, make good preparation, and select appropriate written materials along with materials of some other kind. Also, the teacher’s readiness to spare a certain amount of time for this form of work is of importance. The results of applying such a model are good, and the students are satisfied, so it should be applied more often.

Through PBL, the students made use of competences which are developed to a smaller extent in traditional teaching and learning. This is related to the competence of solving problems, making decisions, team work, cooperative learning, independent work, as well as critical and creative thinking. The students were instructed to collect information from different sources (including the teacher). The students also learned how to compare the obtained information with that obtained by the members of the groups and thus they became aware of their own
strengths and weaknesses in the process of learning. By working in a group, the students had the opportunity to develop the skill of appreciating the opinions of others and value their own contribution to the results achieved by the group. Active use of information will facilitate their storing in the long-term memory.

Based on the experience gained in the conducted research, it can be concluded that in geography teaching it is not of primary importance to single out and solve only a few “right problems” in the course of one school year. Quite contrary, everyday teaching practice should create such situations in which students will be engaged in working both individually and in the group, to be able to apply the acquired knowledge, and to be constantly in search of new information, as well as the cause-effect relationships between geographical phenomena and concepts.

The quantitative evaluation results clearly indicate that the use and implementation of the PBL procedure in a single course as part of a traditional curriculum has been a success. We may conclude that the outcome of this learning process is indeed better. The students have not only obtained competence within the traditional curriculum, but also additional inter-personal and intra-personal teamwork skills.

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Abstract

This paper examines the styles and approaches to learning in contemporary higher education students. These individual characteristics are seen as results of the interaction between student individuality and the learning environment stimuli. The presented research is based on the assumption of existing interactions among the nature of study environment, the student’s approach to learning and his/her study effectiveness. Research results confirm this assumption and enable to analyze findings in the context of a specific learning environment.

Keywords: learning, university student, learning style, learning approach, quality of higher education, learning effectiveness

Introduction

University studies are supposed to be preparing for a career or job. But the tradition of higher education contains also general education goals (Chlup, 1967). A university graduate should, in addition to a specialized knowledge, have a broader cultural vision and a tendency to continuous self-education. According to Wankowski (1991), one of the general objectives of university education is to develop learner independence. This independence (autonomy) relates to the choice of strategies, means, and contents as well as to the ability to assess one’s own knowledge and skills in a given sphere (Janíková, 2007).
There is the question of to what extent the current system of university education supports its development. Autonomy and the general culture student today is rather a by-product and goal of a contemporary pursued higher education. The main proof of educational success is an electronic summary of the ratings, using classification. Whether such a professionally equipped graduate is prepared not only for the labor market, but also supported in his/her cultural development, cannot be reliably identified on the basis of this summary.

The process, the end of which is a university graduate, is influenced by more factors. They are the content of the curriculum, intellectual, as well as other incentives, and the level of teaching requirements. On the part of the learner it requires not only intellectual ability but it is also significantly influenced by his/her mental toughness and personality as a whole (Cassidy & Eachus, 2000). In the course of their study, students proceed in various ways. In the case of university students, whose significant proportion of work is self-study, individuality becomes more important. However, is it possible to say that there are learning patterns which are more efficient in terms of study quality? Could these characteristics be prerequisites of fruitfulness found? Or are these rather a by-product resulting from the effect of the learning environment on individuals?

The starting point for the answer to these questions is a reflection on the concepts of learning styles, approaches and results as factors influencing each other. The framework within which these interactions happen is the learning environment which, by means of its values and goals, significantly influences all the interactions (Mesick, 1987). In compliance with Honey & Mumford (1992), we consider learning styles as a description of the attitudes and behaviours which determine an individually preferred method of perception, imagination, memory, problem solving and thinking (Řehulková, 2007). If individual specialities in cognitive processes are connected with motivation, we use the expression “approaches to learning or strategy” (Entwistle, 1981). According to Diseth and Martinsen (2003), approaches to learning represent individual specialities in intents and motives in the course of learning situations and in the use of corresponding strategies. The deep learning approach tends to understand the studied material, and is motivated by interest in a subject. In this process of study, facts are used and thoughts are operated with. The surface learning approach prefers mechanical processing and reproduction of the subject matter studied. The primary motive in this approach is to avoid failure and problems. The intention of the strategic learning approach is to obtain the best possible grades. Users of this approach try to achieve this aim by means of any adaptation to evaluating requirements. In compliance with these requirements, these individuals plan
their time and ways of using intellectual resources. Their primary motive is to compete with others.

As for the relation to learning results, there is one more significant difference between the concept of learning styles and learning approaches. Messick (1987) found that cognitive styles together with locus of control and the need to cognise are fundamental and relatively stable aspects of individual particularities within the meaning of the style of information processing and motivation, while approaches to learning may, to a greater extent, be influenced by the context within the meaning of adaptation to the actual requirements of the learning environment. Similarly, Riding and Rayner (1998) stress the stability of styles, nevertheless they admit that some learning strategies and problem-solving strategies can develop as a response to the requirements of the environment. In their research, Diseth and Martinsen (2003) confirmed the relationship between the deep approach to learning, motivation for success, and the need to cognise, as well as the connection between the surface style, the predominance of assimilation and motivation, and motivation to avoid failure; the relationship between the strategic approach to learning, the predominance of exploration, motivation for success and the need to cognise.

The above discussion shows an important relationship among learning approaches, learning outcomes and the learning environment. The goal of the presented research was to chart the distribution of learning approaches in a selected sample of UHK students and analyze them in the context of the subjective quality of higher education teaching and effectiveness of learning. To determine the quality of teaching and the effectiveness of student learning, subjective student responses were deliberately chosen. This is due to the unavailability of reliable objective indicators of student effectiveness (see above). Subjective student responses bring better insight into their way of thinking, on the other hand we are aware of the limitations, which lie in the lack of “external” criteria.

**Research Methodology**

For the diagnostics of learning styles, an originally Dutch questionnaire, called **Inventory of Learning Styles (ILS)** (Vermunt, Van Rijswijk, 1987), was used (Czech version by Mareš, 1995). According to the author, the ILS items are supplied by four factors: curriculum processing, learning process control, motivation to learn, and approach to the curriculum, and each of these factors is further divided into 5 variables: the curriculum processing factor: searching for relationships and structuring, critical activity and independence, memorising and recollecting,
analysing plus concretising and giving a personal sense; **the learning control factor**: auto-regulation of the course and results of learning, auto-regulation of the content aspect of learning, external regulation of the course of learning, external regulation of learning results, and absence of control focused on problems; **the motivation to learn factor**: obtaining a diploma, occupational motivation, self-testing and testing one’s own abilities, personal interests and preferences, and ambivalent motivation; **the approaches to learning factor**: absorbing knowledge, constructing knowledge structures, using knowledge, stimulated self-education, and co-operation.

Another instrument used in the research was a questionnaire of our own design, which was called **Evaluation of higher education teaching by the student**. Its inclusion in the test battery was motivated by the need to obtain data on the character of the learning environment. For this purpose, we also included items inspired by the work of Vaněčková (2007), who was engaged in research into the evaluation of higher education teaching. The final form of the questionnaire administered included 36 statements assessed on a five-point Likert-type scale.

To assess student learning effectiveness, a 15-item questionnaire, called **Evaluation of One’s Own Learning**, was designed. The wording of individual items was inspired by the General Perceived Self-Efficacy Questionnaire (Jerusalem, Schwarzer, 1999, Czech translation by J. Křivohlavý in Hoskovcová 2006), which is derived from Bandura’s concept of self-efficacy.

The quantitative processing of both the questionnaires was carried out in the SPSS and NCSS programmes. For the analysis of the psychometric characteristics of both the questionnaires, we used the factor analysis methods without factor rotation, and the methods of descriptive statistics (arithmetic mean, median, and standard deviation). For the analysis of the mutual relationship of learning styles and approaches to other concepts, the methods of cluster analysis, analysis of variance, correlation calculation, and chi-square were used.

The research comprised 207 students at the University of Hradec Králové in various fields of Bachelor’s study of which women formed 59% (N = 121), and men 41% (N = 86). As far as the length of study is concerned, the students were divided into two groups, i.e. 1st year students (43%) and 2nd and 3rd year students (57%). Another research sample characteristic was the inclusion of in-service trained students (21%, N=44, with average age 42). The total number of included subjects of study amounted to 26, and for a brief overview, they were categorised into five groups: social sciences and linguistic disciplines (15%), IT (42%), natural sciences (7%), artistic disciplines (3%) and educational and teaching-oriented disciplines (33%).
### Results

The factor analyses of ILS reduced the factors to four. They already combine the preferred manner of processing, motivation, and the dimension of dependence on/independence from external control in learning. A **systematic approach** factor connects careful work with information, interest in theory, openness to cognition, and prevailing auto-regulation; **practicality** presents the tendency to memorise the material with a pronounced professional orientation, high practicality, prevailing external regulation in learning, and frequent co-operation; **learning difficulties** connect a fear of failure, orientation towards obtaining a diploma, feeling of failure in study, and absence of control; and **neutrality** describes an individual with a tendency to neutral professional orientation, managing the subject matter rather by memorising with a desire for cognition.

The paired t-test method showed differences in the scoring of the monitored students. In the **systematic approach** factor, the UHK students under 24 years of age scored low compared to older students ($F = 4.921; p < 0.05, n = 207$). Similar results were obtained in the **neutrality** factor, where the students over 24 years of age scored significantly higher in comparison with the students under 24 ($F = 7.299; p < 0.01, n = 207$). In the **practicality and professional orientation** factor, the 1st year students scored significantly lower compared with the 2nd and 3rd year students ($F = 6.696; p < 0.01, n = 207$). In the **systematic approach**, men scored significantly lower than women ($F = 6.512; p < 0.05, n = 207$).

Cluster analysis isolated several personality types: an **Easy-going person**, markedly below average in the systematic approach and in auto-regulation, still professionally unspecific, but without serious difficulties in learning; a **Theorist**, highly above-average scoring in the analytical and systematic approach and in auto-regulation, using mechanical learning at an average level, without learning difficulties and strongly specific about his/her field of study; a **Practitioner**, scoring at an average level in the systematic approach, above-average in the practical and mechanical approach, but unspecific in professional orientation and with studying difficulties; a **Person Unsuccessful in study**, average in the systematic approach, highly unpractical, above-average in non-specific orientation and with serious studying problems. As shown by the analysis, all the four types of students exist in our research sample. The practitioner is the type with the relatively highest incidence (38%), and the theorist is the type with the lowest incidence (17.4%). The easy-going type is represented by more than a quarter of all the surveyed students (26%). The finding that nearly 18% of the students have serious studying difficulties is also an important fact.
The calculation of chi-square revealed an important difference in the distribution of the students according to their age. The students under 24 years of age are significantly more represented in the Easy-going and Theorist types, and less in the Unsuccessful in study type; the students over 24 significantly more often represented the Practitioner and Unsuccessful in study types ($\chi^2=8.108; \text{df}=3; p < 0.05, n = 207$). Men were significantly more often present in the Easy-going and Theorist types, and women in the Practitioner type ($\chi^2=13.51; \text{df}=9; p < 0.05, n = 207$). The students in their first year of study to a greater extent inclined towards the Easy-going and Theorist type, while the students in the second and third years of study were more frequently represented in the Theorist and Practitioner types ($\chi^2=8.045; \text{df}=3; p < 0.05, n = 207$).

With the use of factor analysis of the Evaluation of higher education teaching by the student questionnaire one factor, saturated by 19 items and showing high reliability (Cronbach’s alpha = 0.90), was extracted and was called perceived quality of teaching. The arithmetic mean of the factor obtained in the evaluation on a 5-point scale was 2.1652, which means that the students assessed the quality of teaching, on a 5-point scale, using the expression of regular school classification, as very good. Most favourably evaluated items were: “Exam requirements are set in advance,” “Teachers are open to communication and co-operation,” and “Teaching is professional.” Teachers are perceived as professionals characterised by correct conduct, willingness to help and providing teaching at a professional level. They are least favourably evaluated in regularly provided feedback, in the adequacy of requirements, and in the mediation of study materials. The most frequent answer to these items was 3.

The correlation analysis has shown that the students under 25 evaluate teaching less favourably compared with the older students ($r = -0.24$). The ANOVA method also detected statistically significant differences from the point of view of the field of study ($F = 3.75, p < 0.01, n = 207$).

Factor analysis of the Evaluation of One’s Own Learning questionnaire extracted one factor called subjective effectiveness of learning saturated by 15 items (Cronbach’s alpha = 0.91). The total arithmetic mean of all 15 items was 2.70. Most favourably evaluated statements related to one’s own learning are shown in Table 1.

**Table 1. Most favourably evaluated items of the subjective effectiveness learning factor**

<table>
<thead>
<tr>
<th>Items</th>
<th>Ar. mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. I am convinced that I will master the requirements of my future profession.</td>
<td>2.3333</td>
<td>0.9348</td>
</tr>
</tbody>
</table>
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How do University Students Learn: Learning Styles and Approaches

<table>
<thead>
<tr>
<th>Items</th>
<th>Ar. mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>42. I am satisfied with the knowledge and skills which I am obtaining in my course.</td>
<td>2.3913</td>
<td>0.9737</td>
</tr>
<tr>
<td>43. If I make the necessary learning effort, I will be able to resolve nearly every problem.</td>
<td>2.4300</td>
<td>1.0537</td>
</tr>
<tr>
<td>47. I am convinced that I will assert myself in practice thanks to my course.</td>
<td>2.4686</td>
<td>1.1773</td>
</tr>
</tbody>
</table>

On the contrary, the least favourable evaluation by the students is related to the following statements:

Table 2. Least favourably evaluated items of the subjective effectiveness learning factor

<table>
<thead>
<tr>
<th>Items</th>
<th>Ar. mean</th>
<th>St. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. Learning is easy for me.</td>
<td>3.1643</td>
<td>1.0803</td>
</tr>
<tr>
<td>35. Teachers help students to improve their learning style.</td>
<td>2.8551</td>
<td>1.0831</td>
</tr>
<tr>
<td>38. My learning method is effective.</td>
<td>2.8261</td>
<td>0.8970</td>
</tr>
</tbody>
</table>

Statistically important differences were found in the evaluation of the subjective effectiveness of learning from the point of view of age. Similarly to the factor of the perceived quality of teaching, the group of students under 24 was more critical in comparison with their older colleagues, who, as a rule, studied in combined forms of courses, and whose average age was 37 (r = – 0.31).

Correlation analysis confirmed a statistically significant positive relationship between the perceived quality of teaching and the subjective effectiveness of learning (r = 0.42). The students who perceived teaching as having a high quality were, at the same time, satisfied with the effectiveness of their own learning, and vice versa.

All the four types coming from the ILS questionnaire analysis were compared in terms of their subjective evaluation of learning effectiveness (F = 6.834; p < 0.01, n = 207). One’s own learning was perceived as most effective by the Easy-going person type, then by the Theorist type, then the Unsuccessful in study type, and an abysmal gap is found between the above-mentioned ones and the Practitioner type.

Discussion

The UHK students differ in the degree of systematic approach, criticality, and auto-regulation, in the degree of practical orientation, professional specificity, and
in the degree of perceived difficulties in studying. Personal immaturity and professional vagueness is more attributable to the students under 24 years of age, but not exclusively. On the contrary, a systematic approach is significantly more frequently preferred by the older students and women.

The distribution of the UHK students into individual types indicates that the largest part of the monitored students (40%) is practically focused and application-orientated. Unfortunately, at the same time, the students of this type mostly choose mechanical processing, which brings about results whose effectiveness is low. The high percentage of this type of students can be explained by the proportion of the fields of study; they were predominantly students of teaching curricula, where their interest in education in general can outweigh their interest in the special subject matter. This can be a source of their difficulties in studying, as well as the fact that they perceive the requirements of teachers as too high.

The students at UHK on average evaluate the university teaching on a 5-point scale as very good. They particularly value the teachers for the professional level and their willingness to communicate. On the contrary, the least appreciated aspect is the pedagogues’ ability to provide feedback, to have adequate requirements and ability to help students to improve their methods of learning. The teachers are perceived as experts until a problem emerges. Then their ability to intervene is considered as average.

Evaluation by the full-time students is more critical compared to the older ones. Is this merely caused by their young age criticality or by stagnant communication between the generation of young students and older teachers? Significant differences also exist in the evaluation by the students of various fields of study. It can be seen that the students of social and pedagogical studies assess the quality of teaching more favourably in comparison with the students of foreign languages and natural sciences. These results can be connected with the more profound knowledge of the teachers of pedagogical disciplines in the field of the principles of learning, which often forms a part of their professional skills.

The subjective effectiveness of learning in the evaluation by the students is less favourable in comparison with the evaluation of the quality of teaching. Average evaluation by the students on a 5-point scale amounted to 2.7. An important finding is the fact that up to 40% of the students experience serious problems in studying. Self-confidence in the results of one’s own learning grows with age, and differences in evaluation also exist in accordance with individual fields of study. The results can also be influenced by the fact that the monitored sample of students was formed by the students of Bachelor’s courses, who are still in the phase of adapting to the new study environment.
The correlation analysis has confirmed the statistically significant positive relationship between the *perceived quality of the teaching factor* and the *subjective quality of the learning factor*. The students, who perceive teaching as a high quality process, are at the same time more satisfied with the effectiveness of their own learning and vice versa. This finding supports our anticipation related to the interaction of the study environment and approaches of students towards studying. At the same time, the finding is in compliance with the finding of Wankovski (1991), stating that success in study is connected with identification with the curriculum and work requirements which follow from the structure of the course.

The correlation of the identified types of students to the perceived effectiveness of their study has pointed out some risks. The students who are extremely orientated towards practice do not consider theory attractive, and because they prefer mechanical processing of the subject matter, they often have difficulty studying. Another risk type is the Unsuccessful in study type of student, who is professionally immature, which also applies to their personality, and even their above-average systematic approach can, in this case, take the form of adherence to stereotypical methods of learning which may cause serious studying problems.

**Conclusions**

Significant factors participating in the manner in which the student will approach his/her study include, in addition to the preference for cognitive processing, the motivation component and the degree of dependence/independence (autonomy). The identified types of students in principle correspond with Entwistle’s (1981) approaches to study: surface (Practitioner), deep (Theorist), strategic (Easy-going person), and apathetic (Unsuccessful in study) types. This also complies with the connection with learning effectiveness, where the Easy-going person type is by far the best of all in this respect. Assuming these findings from the interaction of the student’s individuality and learning environment, the following question arises: to what extent does the currently valid higher education system appreciate mainly mechanical information processing and the ability to adapt as factors developing personalities that think autonomously and creatively?

This article was written as a result of SV 2010 No 2143 entitled “Learning Strategies and Styles of PdF UHK Students”.

References


Greek Sixth-graders’ Mental Representations of the Mechanism of Vision

Abstract

The presented research concerns 11-year-old Greek students’ mental representations of the mechanisms of vision in conditions of natural and artificial light, as well as the persistence of those representations in terms of the two different states of lighting and the expression form of the provided answers (oral speech; sketches). The study consisted of two phases: test interviews and an interview process, where personal interviews were conducted with 30 participants. The results showed that the 11-year-old pupils employed the majority of the vision schemes that are included in the international bibliography; however, they tended to use the Sea of Light mechanism and a new scheme the researchers called Illumination of the Object. The schemes employed, however, are not consistent, either throughout the different states of lighting, or in the 3-D and 2-D world.

Keywords: mental representations, vision, Science.

Introduction

Every year, in school classes across countries, teachers make a great effort to transfer a corpus of transformed scientific knowledge to young pupils, which often conflicts with their personal ideas on a scientific subject (Driver, Squires, Rushworth, & Wood-Robinson, 1994). Frequently called mental representations, those ideas are explanatory prototypes according to which experiences are “translated” and in which incoming information is integrated (Ravanis, Koliopoulos & Boilevin, 2008; Ravanis, Zacharos & Vellopoulou, 2010).
As Weil-Barais (2001) explained, mental representations present causality and consistency, thus they are very resistant to teachers’ attempts to change them. Therefore, it is extremely important that the mental representations that pupils bring to classroom should be the starting point of the educational process.

What happens, then, when it comes to teaching science? As a school course, science consists of concepts, natural phenomena, theories, models, symbols and specific terms that are not always easily comprehended as we cannot always see or feel a natural phenomenon directly (Koliopoulos, Adúriz-Bravo, & Ravanis, 2011).

The concept studied in this paper is vision, a field that constitutes a large part of the optics curriculum. Vision has been studied since ancient times. Ancient Greek scientists believed that we can see because light is produced and transmitted in a straight line, without knowing either its nature or the direction it is heading for. By the end of the 13th century AD, al-Hasan ibn al-Haytham proposed what is today known as the modern theory of vision. According to this theory, light travels from a light source towards an object. When it reaches the object, a part of it is retransmitted in all directions. Kepler refined this theory of vision: the retransmitted light that meets the eye creates a reversed image of the object in the retina (Kepler 1600/2000 in Dedes, 2005). At this point, some basic features of light should be described. Light is both a wave and a particle. When it is being emitted by a light source, it reaches an object and, depending on its type of surface and according to the object’s properties, light of a certain frequency is absorbed and reflected back in all directions. The reflected light reaches the eye of the observer which attributes its colour to the object (Hewitt, 2004). A reaction is caused in the eye retina and it is “translated” by the human brain (Selley, 1996). This represents the scientific model of human vision and is based on three essential principles:

- light is transmitted in a straight line almost instantly,
- an illuminated object retransmits light in all directions, including towards the eye of an observer as that is necessary so as to see an object, and
- the trajectory of the light from the object to the eye is identical to the straight line in which the eye sees the object (Selley, 1996).

The complexity of this mechanism has posed questions about what children seem to think of it. Selley (1996) studied the ideas of children in grade 4 (8 years of age) and how they evolved over the next three years. Nine different versions of the children’s interpretative mechanisms for vision and light were revealed (involving factors such as an object, light source and the eye):

1. **Cooperative Emission**: Both the eye and the light source emit light towards the object.
2. **Stimulated Emission:** The light reaches the eye and is then retransmitted or causes the emission of a light beam towards the object.

3. **Simple Emission:** The eye sends light to the object.

4. **Stimulated Emission with Reflection:** The light leaves the light source, reaches the eye, is then retransmitted or provokes a secondary emission towards the object. The object then retransmits the light, which returns to the eye.

5. **Primary Reception:** The light source lights the eye – this model involves primary light sources.

6. **Secondary Reception:** The light travels from the light source first to the object, then to the eye – this model involves objects retransmitting light from a primary light source.

7. **Secondary Reception-Emission:** The light travels from the light source to the object, then “bounces” towards the eye, the eye then emits something towards the object.

8. **Sea of Light:** The light source generally lights the space and this is the reason why we can see.

9. **Dual Illumination:** The light source lights both the eye and the object at the same time.

Children primarily adopt Mechanisms 2 and 8. With age these mechanisms evolve into Mechanisms 1, 4, 6 and 7 (Selley, 1996). Mechanism 8 primarily appears in children’s ideas about vision in night conditions (Kokologiannaki & Ravanis, 2012). Mechanisms 1 to 4, 7 and 9 also appear in the bibliographical study of Dedes (2005), where another interpretative mechanism was introduced, in which light, starting from the light source, simply reaches an object with no further detail provided. Children do not seem to perceive light as an entity and tend to assign an energetic role to the eye. Thus, it is easier for them to accept an emission model over a reception model (Anderson & Smith, 1982; Selley, 1996).

Ravanis (2000) studied the ideas of 58 Greek students (aged from 12 to 13) who had already attended an optics class on the mechanism of vision. The findings revealed that an acceptable number of Greek students of this age had, in fact, a satisfactory idea about the mechanism of vision. Furthermore, they tend to assign an energetic role to the eye.

Pupils do hold specific ideas on science matters that are resistant to change. If we want a science class to be efficient we should first of all lean towards those representational mechanisms and use them as the baseline for our educational efforts. Thus, for this study it was necessary to firstly explore the representational mechanisms that students have for specific scientific phenomena, which, in our case, would be the mechanisms of vision. We then aimed to explore the following questions in more detail:
1. Are the interpretative mechanisms that Greek sixth-grade students adopt in order to explain the way we can see an object in accordance with the ones observed in the published literature?
2. Are they consistent as far as their form of expression is concerned in terms of answers given in the oral form and answers given in the form of drawings?
3. Are they consistent when a different light source is involved (either natural or artificial light conditions)?

Methodology

The participants
In this qualitative study, 30 Greek students were involved, 14 boys and 16 girls, from three different primary schools located in rural and semi-urban areas in the county of Elia in Greece. They all were in the sixth grade and had never been taught about vision before.

The research material
Semi-structured interviews were used. Each participant was given a blue and a white piece of A4 paper and then asked the following questions:
1. Would you be able to see this blue and this white piece of paper if you were outside in the school yard?
2. If the answer to Question 1 is affirmative: What would help you see them and how would the factors you have mentioned contribute to your seeing them?
3. If those two pieces of paper were placed under the light of a study lamp, would you be able to see them in that case?
4. If the answer to Question 3 is affirmative: What would help you see them and how would the factors you have mentioned contribute to your seeing them?

In addition, the pupils were provided with some supplementary pictures so as to determine whether their previous oral answers were in accordance with the ones expressed in the written form (cf., Figures 1–4) and to test the strength of their interpretative mechanisms as far as the form of their expression was concerned (written 2-D world or an oral form representing the 3-D world). These pictures depicted situations similar to the ones asked about by the interviewer, involving an observer, a white egg, a red apple, a primary light source (the sun) and an artificial light source (a lit study lamp) (Web Source1 & Web Source2, 2010). The existence of two different kinds of light source also aimed to put their answers to the test.
The participants were encouraged to draw or write, in order to express in a 2-D world the way the observer sees the object in each picture.

**Figure 1.** First supplementary picture (natural light source and white object)

![Figure 1](image)

**Figure 2:** Second supplementary picture (natural light source and red object)

![Figure 2](image)

**Figure 3:** Third supplementary picture (artificial light source and white object)

![Figure 3](image)

**Figure 4:** Fourth supplementary picture (artificial light source and red object)

![Figure 4](image)
The research procedure

The research procedure involved two phases, and was implemented individually with each participant and within the school time schedule:

- Phase 1: test interviews (elimination of possible defects in the interview design and procedure)
- Phase 2: interview process

In phase 2, the participant sat in a room with the interviewer and the interview commenced with the four questions referred to. In the end, each participant was asked to fill in the pictures so as to explain if and how the observer saw the object. The participant was allowed not to write anything at all, if desired. Notes were kept of the interview and the procedure was recorded.

Results

Data analysis

Following the qualitative analysis of the interviews and the pictures given to the participants, a number of categories for the children’s interpretative mechanisms of vision were created. Interpretative mechanism tables were then created that portrayed the oral and written answers of each participant as well as the responses for the two lighting conditions: artificial and natural light.

The different categories of interpretative mechanisms that the children employed to explain vision are presented in Table 1 (LS = Light Source, E = Eye, O = Object) in a hierarchical order based on the factor that is most active in the procedure of vision. The mechanisms that attribute vision to the same factor are then also presented in a hierarchical order based on their proximity to Haytham’s scientific model.

Interpretative Mechanisms 1 to 5 involve a light source that sends something to the eye. To be more specific, interpretative Mechanism 1 or Secondary Reception represents the scientific model. Mechanism 2 or Illumination of the Object is approximate to the scientific model as the light source sends light to the object. In the third mechanism, Dual Illumination, a supplementary procedure is added to Mechanism 2: the light source also sends light to the eye at the same time. In Mechanism 4, or Primary Reception, the eye sees the object because the light source simply sends light to the eye. In the last category of mechanisms, Sea of Light, the light source generally lightens the space and the object is seen. This must not be confused with Illumination of the Object as there is neither a specific procedure that is described, nor a specific direction of the light.
In the last mechanism (Cooperative Emission), it is the eye that sends something in order to see an object. The light source emits light towards the eye.

**Table 1.** Interpretative mechanisms that children employ to explain vision (LS = Light Source; E = Eye; O = Object)

<table>
<thead>
<tr>
<th>Interpretative Mechanisms</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Secondary Reception</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 1" /></td>
</tr>
<tr>
<td>2</td>
<td>Illumination of the Object</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 2" /></td>
</tr>
<tr>
<td>3</td>
<td>Dual Illumination</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 3" /></td>
</tr>
<tr>
<td>4</td>
<td>Primary Reception</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 4" /></td>
</tr>
<tr>
<td>5</td>
<td>Sea of Light</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 5" /></td>
</tr>
<tr>
<td>6</td>
<td>Cooperative Emission</td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Diagram 6" /></td>
</tr>
</tbody>
</table>
Examples for each interpretative mechanism are provided below:

1. **Secondary Reception:**

   **Figure 5:** Subject 20, artificial light source. The study lamp sends “light” to the apple and the image reaches the eye of the observer.

2. **Illumination of the object:** Subject 29 explained the artificial light condition as follows: “By sending its light (the study lamp), I am able to see both of them easily (both white and blue paper) (...), the eyes help me in the same way (as in natural light, the eye sees the paper).”

   In this type of answer the light source is primarily involved in the process of seeing an object. The eyes also help, but their role is constrained to simply functioning properly. Often, in the drawings, the subjects would draw arrows coming from the light source to the object and from the eye to the object (Figure 6). The subjects explained that the arrow between the eye and the object means that the eye “sees” the object; consequently, such answers should not be confused with those for “Cooperative Emission.”
Figure 6: Subject 19, natural light: “The light of the sun reaches the egg” and “the eyes of the man see the egg”

3. Dual Illumination:

Figure 7: Subject 7, natural light: “(The sun light) reaches the surface of the egg”, and “the eyes see”

4. Primary Reception: This interpretative mechanism was not mentioned in the oral answers; it was only spotted in the subjects’ drawings (cf., Figure 8).
Figure 8: Subject 14, natural light: “The sun lights the man” and “the eyes can see the egg”

5. Sea of Light: Subject 15 explained the artificial light conditions as follows: “The light of the study lamp lights it. My eyes help me see it”.

Figure 9: Subject 18, natural light: “The sun lightens (in general)”

6. Cooperative Emission: Subject 8 believed that in order to see in the natural light conditions: “The eyes (help). The light from the sun (also helps) (...) the sunlight, the sun rays. They (the eyes) send rays”.
Figure 10: Subject 8, natural light: The sun sends "rays" to the egg and the eye also "stares" and sends "rays"

7. No answer/no drawing: Two subjects did not know the answer or did not wish to draw anything. Tables 2, 3 and 4 present the answers given by each subject in detail.

Table 2. Subjects’ interpretative mechanisms in 3-D and 2-D world, in natural light conditions

<table>
<thead>
<tr>
<th>Interpretative mechanisms</th>
<th>3-D world (oral answers)</th>
<th>2-D world (drawings)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subjects</td>
<td>No.</td>
</tr>
<tr>
<td>L.S.</td>
<td>1</td>
<td>20, 24</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4, 6, 7, 9, 10, 17, 26, 29</td>
</tr>
</tbody>
</table>
The prevailing mechanisms in the 3-D world were Sea of Light (19/30) and Illumination of the Object (8/30). Two students used the Secondary Reception Mechanism and only one used Cooperative Emission. The same mechanisms were also found to prevail in the 2-D world: Illumination of the Object (15/30) and the Sea of Light (9/30). Here, three students chose the Secondary Reception mechanism, one drew a Dual Illumination mechanism, one a Primary Reception mechanism, and one a Cooperative Emission mechanism. Overall, the responses of 17 out of 30 subjects presented stability between the mentioned interpretative mechanisms in their oral answers and drawings, while instability was presented in the case of 13 out of 30 students.
Table 3. Subjects’ interpretative mechanisms in 3-D and 2-D world, in artificial light conditions

<table>
<thead>
<tr>
<th>Interpretative Mechanisms</th>
<th>3-D world (oral answers)</th>
<th>2-D world (drawings)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subjects</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>6, 9, 10, 18, 20, 29</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>1, 2, 3, 4, 5, 7, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 26, 27, 28, 30</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>No answer/ drawing</td>
<td>0</td>
</tr>
</tbody>
</table>
As far as artificial light is concerned, the subjects used the Sea of Light (23/30) and Illumination of the Object mechanism (6/30) to explain orally the way we can see an object. In addition, one student said that we can see an object using the Cooperative Emission mechanism. In the students’ drawings, Illumination of the Object (19/30) and Sea of Light (6/30) were the most dominant mechanisms. Also, the Secondary Reception (1/30), the Primary Reception (1/30) and the Cooperative Emission mechanisms (1/30) were used, whilst two students did not draw anything. To sum up, 10 out of 30 students presented consistency in their oral answers and drawings, whereas 18 out of 30 referred to mechanisms in their oral answers different from their drawings.

Table 4. Subjects’ interpretative mechanisms in 3-D and 2-D worlds, in both natural and artificial light conditions

<table>
<thead>
<tr>
<th>Interpretative Mechanisms</th>
<th>Natural Light</th>
<th>Artificial Light</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-D</td>
<td>2-D</td>
</tr>
<tr>
<td></td>
<td>Subjects</td>
<td>Subjects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>E</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>L.S.</td>
<td>4, 6, 7, 9, 10, 17, 26, 29</td>
</tr>
<tr>
<td>3</td>
<td>L.S.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>L.S.</td>
<td></td>
</tr>
</tbody>
</table>
Illumination of the Object and Sea of Light are the dominant mechanisms for both natural and artificial light but their order changes depending on the form of the answer given (oral or drawn). By comparing each subject's personal answers in more detail, we can observe that:

- 8 out of 30 students presented stability in their answers about vision in natural and artificial light.
- 22 out of 30 students presented instability in their answers about vision in natural and artificial light.

**Discussion**

The findings of our research enable us to reach some conclusions that concern the teaching and understanding of the mechanism of vision. According to these findings, Greek sixth grade students appeared to adopt six interpretative mechanisms in order to explain the mechanism of vision, most of which are also seen in the literature (cf., Table 1).

Unlike Selley’s (1996) and Dedes’ (2005) findings, the Stimulated Emission, Stimulated Emission with Reflection and Secondary Reception-Emission interpretative mechanisms were not mentioned by Greek students. In addition, Selley mentions that the Primary Reception interpretative mechanism refers to natural
light conditions, which is not the case here. What is interesting is that in these findings, there is a new interpretative mechanism prevailing in the children’s answers that has not been mentioned in the literature, which we named Illumination of the Object. This new category can offer a supplementary dimension in understanding the difficulties in children’s thoughts on the mechanism of vision.

The dominant interpretative mechanisms are the Illumination of the Object and the Sea of Light. The dominance of the Sea of Light is in accordance with international findings which suggest that students consider light to be a general condition (e.g. general illumination of a certain area; Driver, Squires, Rushworth, & Wood-Robinson, 1994). The Sea of Light was most dominant in the oral answers of the students, whereas Illumination of the Object was dominant in the children’s drawings. This could be due to the fact that Illumination of the Object involves a directivity, which is more easily drawn and expressed using arrows and links, and thus it is easily employed in the written form of expression. On the other hand, the Sea of Light is a general condition of illumination and involves no directivity, a feature that is harder to present on paper. Moreover, Greek students do not attribute an energetic role to the eye, at least not to the extent of their fellow students in other countries (Hosson & Kaminski, 2002; Selley, 1996). This finding is important as its utilization could affect the teaching of optics. Thus, the necessity of supplementary research that would include participants of a wider age range arises.

As far as the stability of the children’s conceptions is concerned, consistency was observed in the natural light conditions answers, both in the oral form and in drawings, whereas the majority of the drawn answers were inconsistent in the artificial light conditions. What is interesting is the fact that for the inconsistent answers – oral or drawings – the interpretative mechanism that is mentioned in the drawings is more evolved compared to the one described orally for the 3-D world. This may be due to the fact that a strong interpretative mechanism would appear in both expression forms whereas a weaker one would not persist through different forms of expression. In addition, the oral form demands that the child imagines and explains his/her thoughts through words, whereas in drawings, the situation is given in a picture and the student depicts his/her answer using arrows, lines and writing. It is a more concrete and direct way of expression and this may be the reason why in that case more evolved interpretative mechanisms are mentioned.

Last but not least, the findings revealed that a minority of the students preserved the same ideas about vision in both natural and artificial light conditions.

In this research we focused on investigating the interpretative mechanism that sixth-graders use about vision. Fifth and seventh graders should be added to the sample of a future study, and a greater number of participants should be
engaged in order to examine the possible evolution of children's thinking in this age range. Further research should also aim to explore which of these interpretative mechanisms may in fact constitute an obstacle to the educational process and subsequently to the evolution of children's thought. Finally, it would also be very interesting to study the possible changes that specially designed teaching interventions, based on the interpretative mechanisms that have emerged from this study, would promote in students’ mental representations about the mechanism of vision.

References


**Abstract**

The main goal of this paper was to indicate the possible use of a specific model of e-learning for computer science teachers in Serbia. Taking this aim into account, the authors accurately indicated the subject of the proposed research: development of a model system for the implementation of e-learning for the level of higher education in Serbia for teachers, with a special emphasis on informatics education. This e-learning model indicates equal participation of major areas of information technology and pedagogy and teaching methodology, pedagogy, ICT and media. The proposed research subject is of high importance in the development of the education system in Serbia and as such is adapted to the needs of a knowledge society and to realize the scientific contribution to the subject area. This work represents a good starting point for further work and continuing research presented, referring to the concrete results of research by the author.

**Keywords:** e-learning model, methods, informatics

**Introduction**

E-learning has been present as facilitated learning and increased use of information and communication technology for about fifteen years. E-learning and the interactive approach allow students to easily master the curriculum, learn by experimentation, simulation of the execution of a particular process, or simply check the knowledge and facilitate communication between teachers and students. Modern teaching and e-learning are conducive to the development of abstract
thinking and provide planning guidance and individual progress in acquiring knowledge. The key advantage of e-learning lies in the ability to manage the entire process of real-time training. The e-learning model is a “tool for survival”. It introduces us to the basic principles and processes of e-learning, provides advice for harmonizing the methods of teaching tasks and provides the principles that lead to the efficient model transformation of information for display online. In this paper, while designing the model of e-learning, methodology of e-learning through the web, the specific environment of our universities and methodological principles for creating online courses are fully covered. E-learning is a logical continuation of the development of education, which students and institutions eagerly embraced and as a solution of modern times. At the same time, it resolves the problems of communication between the institution and students and distribution of materials in a much more comfortable way than any previously known technology.

In our country, the practice of e-learning in higher education has not been thoroughly studied empirically, and neither in teacher training colleges. That is why e-learning in teaching practice lags behind theoretical principles. It is not possible to download the model and the organizational system of e-learning as a whole from the countries in which it is studied and applied in practice. We need to create our own approaches to e-learning in the realization of the program, i.e., our own strategies for learning. Besides, what in other countries is not an innovation any longer, in our teaching practice is. That is the case with e-learning. So-called “courseware” tools are available on the market, can be used in the development and implementation of e-learning. Although courseware tools facilitate the preparation and conduct of the course, that complex area requires inclusion of a team of experts from various disciplines (subject experts, methodologists, teachers, designers, computer experts, etc.). Therefore, in addition to mastering the technologies to create e-learning, what is very important is interdisciplinary team work and managerial skills.

The introduction of e-learning forms, which if well planned and properly applied, is opening new possibilities for both teachers and students. In order to encourage and facilitate the introduction of e-learning in the classroom, it is necessary to improve the concrete possibilities of this form of teaching. It is particularly important to define a clear and achievable vision and strategy for the introduction of teaching through e-learning. It is necessary to improve the quality of higher education using methods and technology of e-learning through the transfer and adaptation of knowledge and experiences from European universities, as well as creating our own models of the organization of e-learning.

Good and proper strategic positioning and planning of e-learning as an integral part of the educational process and a quality and sustainable support system of
e-learning have a critical impact on the performance and results of the implementation of e-learning in higher education. There are world trends consisting in establishing virtual universities which offer fully online education and qualifications through e-learning. Frequently, these universities appeared while modernizing the correspondence forms of teaching, and because of geographical features they have a long tradition and are very numerous in the United States and Canada. However, these universities are present in the European region as well, providing opportunities of online education, which very successfully supports the basic academic education and lifelong learning system.

The ruling attitude is that there must be modernization of teaching with the aim of increasing the efficiency of learning, in other words raising student ability to apply knowledge. The modern learning theory for the digital age, connectivism, has a need for experimental verification of the e-learning model and organization of systems to establish a clear roadmap to teaching practice. E-learning is also a challenge and a tool to enhance and improve the educational process in this country and one of the foundations for new and better ways to manage knowledge. Intensive introduction of e-learning in the educational process, the implementation of the model and the organization of the system, have become a priority of modern higher education institutions worldwide.

**Problems of creating a model of e-learning for class teachers**

Informatics education for teachers is a specific problem because it should provide elements that allow the teacher to apply information and communication technologies and tools for teaching in a variety of areas and in a manner that is consistent with the general pedagogical and methodological principles. One of the required areas is the field of computer science, which requires that the teacher has a sufficiently broad and deep knowledge in the field of informatics.

E-learning methods that have been created for this research are practical, complex, dynamic models, elaborate, transformed, digitized and methodologically designed multimedia teaching units on the basis of teaching programs. The value of the method is determined by the criteria of their applicability, and how much they really affect the efficiency of learning in computer science. This means that teaching contents are modeled by adequate methodological transformation of programs that are set aside for research. For each method we form a special system of instructions for every level of student knowledge, or for a particular group of student abilities. The model takes into account the following relations: student-teacher, student-student and student-teaching material and function and position of students, professors and teaching mate-
rial. In particular, the educational outcomes show the level of the knowledge application of the student.

As information technology is based on a number of different fundamental areas (computer science, mathematics, engineering discipline, etc.) and is characterized by extremely dynamic development, it is essential that the teacher teaches informatics to build their own flexible informatics skills so they will ensure:

That in the context of the teaching content, whose principal object is informatics or ICT itself, the teacher is able to adequately convey to students the relevant informatics knowledge.

That the teacher is able to adequately use computer knowledge also in teaching in non-informatics areas.

These two requirements imply that teachers are supposed to be able to follow the development of information technology and its application, thus to have the knowledge and skills concerning the ideas and methods of the new information technologies and methodological transformation of content.

Such research improves promotion of e-learning for teaching profile, by constructing a model including methods and tools for acquiring flexible computer knowledge. Informatics education at every level is crucial for building a society that is based on knowledge. There has not been any research in our area so far on the efficiency of learning with the use of e-learning in computer science, although research into this area in the world is very intensive, which confirms the topicality of the proposed research.

**Explanation of research needs for e-learning**

The importance of the research is to overcome the current demand for the traditional model of teaching that is predominantly used in the teaching methods of introducing e-learning and new forms of work, as it is known that the traditional teaching is lagging behind in assimilating new technologies.

The reason for the research is the knowledge that the contents which hold the characteristics of modern science in integrated programs of teaching are contrary to the learning abilities of students, and that the usual model of teaching is faced with the problem of inefficiency. So far, the few studies conducted have shown that the redefinition of the program does not produce the desired results in terms of increased efficiency. The presented research is focused on the teaching of computer science. It is necessary to determine the possibilities of e-learning application in the classroom, at the same time respecting the general pedagogical value. Also, we should determine the reasons for e-learning, with a clear educational purpose, insufficiently integrated into teaching.
The scientific contribution of this research is the systematization of the theoretical and empirical knowledge about the models of e-learning in higher education, as well as finding an optimum method of e-learning in order to establish clear methodological signposts for further scientific research. It is believed that this research will improve the conditions for the implementation of informatics curriculum content, thanks to the innovative empirically based approach to teaching and learning. The need for this research stems from the fact that systems of e-learning in the classroom and their use in teaching computer science so far have not been studied in a comprehensive, systematic way yet.

**The aim of the research model of e-learning**

The main goal of this research is to develop models of e-learning in order to gain flexible informatics skills among class teachers, and define and verify the environment for the application of e-learning methods and appropriate techniques and tools to enable flexible implementation of the teaching contents and the use and effectiveness of permanent evaluation. The model includes the following basic elements:

1. The architecture of extensible software support for the implementation of different models of e-learning based on open standards and open sources (open source);
2. Methods and software tools for determining the effectiveness of the implemented models of e-learning through student achievement that can be objectively measured using standardized tests as measuring instruments.

The proposed model should provide a simple and flexible use for teachers and students and remodeling without touching the source code.

Research hypotheses:

The basic hypothesis: The use of adequate models of e-learning in teaching computer science gives more flexible informatics knowledge, developing practical skills and habits of students to use information and communication technology, general increase in the quantity and quality of knowledge, as well as an increase in student interest in adopting various applications of knowledge using IT technologies.

Sub-hypothesis:

a) Student achievement in the current, traditional model for teaching computer science for teachers is not satisfactory;

b) Using an appropriate e-learning model gives better results in teaching computer science than the traditional model.
The study confirmed the main research hypotheses. This means that the specific model of e-learning in teaching information technology has a positive effect on academic achievement and significantly improves the efficiency of the educational work. The research is oriented towards substantial change, modernization and improvement of the direct teaching of computer science, but is expected to be a contribution in other areas based on increased practical skills in the field of informatics. In this sense, the results obtained allow for understanding the possibilities of applying different models of e-learning management and e-learning methods in teaching computer science as well as in the cases beyond informatics.

**Phase of the research, applied methods and sample design**

The first phase of the research was related to the analysis of the existing theoretical knowledge on the models of e-learning in higher education, with an emphasis on the e-learning model in teaching computer science for teacher profiles and methodological aspects of the transformation of educational facilities for the implementation of online teaching and organization of learning based on program content.

The second phase was the development of an e-learning model which resulted in more efficient learning in the field of informatics and the experimental verification of this model. The research was undertaken through the following steps, which also represent the tasks of the research:

1. Analysis of existing solutions in the field of e-learning models and software support for e-learning.
2. Specification of the software system architecture to support the implementation of e-learning.
3. Syllabus of existing curricula for teacher profiles teaching computer science
4. Specification of the e-learning model for teacher profiles teaching computer science.
5. Initial examination of the program content of information technology in the experimental and control groups.
6. Teaching with the use of the created e-learning model.
7. Examination of the effects of the suggested solution.
   a. Final testing of students in the experimental and control groups.
   b. Comparing students’ competencies before and after the teaching by using models of e-learning.
8. Analysis and interpretation of the results of theoretical and empirical research on the effectiveness of learning using e-learning in computer science.
The sample for this study was formed from the population of the first-year students of the Faculty of Education in Sombor and Teacher Training Faculty with directional class teaching. The students from the Faculty of Education in Sombor were the experimental group, and the students from the Faculty of Education in Belgrade were the control group.

Balancing the groups was performed by trimming after initial testing (pretest), so that each group contained sufficient statistics and an equal number of students. Pretest determined the respondents’ initial level of motivation and knowledge of Informatics. After equalizing the groups, the experimental group underwent teaching with the use of an e-learning model, and the control group was taught with the use of traditional teaching methods in teaching computer science.

The dependent variables of the experimental studies were pedagogical achievement, psychological motivation, problem solving, and independent variables were the methods of learning such as traditional methods of learning and the e-learning model.

After completing both courses, the post-test was performed by the same test post-test, it measured the knowledge and motivation in both groups. Also, the same problem was given to both groups at the end of the course and it measured success in solving a problem. At the Faculty of Education in Sombor, a computer laboratory was used for classes and lectures. As the support of e-learning, an open source platform for distance learning, video conferencing systems and applications needed for creating teaching methods of e-learning models were used.

### Some research results

**Table 1.** Results of a two-factor system of analysis of covariance differences in solving problems for the determination of the strategy of analysis

<table>
<thead>
<tr>
<th></th>
<th>Mean $\bar{x}$</th>
<th>Standard deviation $s$</th>
<th>Test of arithmetic differences $F$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG (Experimental Group)</td>
<td>3.336</td>
<td>1.217</td>
<td>8.115</td>
<td>0.005</td>
</tr>
<tr>
<td>CG (Control Group)</td>
<td>2.269</td>
<td>1.392</td>
<td>0.443</td>
<td>0.507</td>
</tr>
<tr>
<td>E-learning</td>
<td>3.450</td>
<td>1.077</td>
<td>0.030</td>
<td>0.852</td>
</tr>
<tr>
<td>Traditional</td>
<td>2.156</td>
<td>1.405</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The table shows the legitimate assumption of variance homogeneity (F=1.235, P=0.300). The assumption of the homogeneity of regression coefficients is also justified (F=0.789, P=0.376). The differences between the achievements of the users of e-learning teaching materials (EG) and those without (CG) are statistically significant (F=8.115, P=0.005). The users of e-learning learning materials were more successful in solving problems, as their achievements in e-learning teaching materials, on average, were higher than the achievements of those who had to deal with materials prepared in the traditional way (χ_exp=3.336, χ_contr=2.269). Table 1 also shows the distribution of the performance of both groups. The problem was made up of several parts, the solution was evaluated separately. The maximum overall achievement means that the problem was solved correctly.

Table 2. Results of a two-factor system of analysis of covariance differences in performance in solving problems to identify strategies of reasoning and interpretation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Test of arithmetic differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(\bar{x})</td>
<td>s</td>
<td>F</td>
</tr>
<tr>
<td>EG (Experimental Group)</td>
<td>4.169</td>
<td>1.564</td>
<td>11.215</td>
</tr>
<tr>
<td>CG (Control Group)</td>
<td>2.866</td>
<td>1.461</td>
<td>0.858</td>
</tr>
<tr>
<td>E-learning</td>
<td>4.518</td>
<td>1.541</td>
<td>0.502</td>
</tr>
<tr>
<td>Traditional</td>
<td>2.890</td>
<td>1.223</td>
<td></td>
</tr>
</tbody>
</table>

The assumption of the homogeneity of variance (F=1.298, P=0.278) and the assumption of the homogeneity of regression coefficients (F=0.013, P =0.909) were eligible. There was a significant difference between the average achievement of the users e-learning teaching materials and those without (F=11.215, P=0.001). The users e-learning learning materials had been successful in the problem of reasoning methods and interpretation, as evident from the higher average total performance of the users of e-learning learning materials according to the users who were prepared to tackle them in the traditional way (\(\chi_{\text{exp}}=4.169, \chi_{\text{contr}}=2.866\)).

Table 3. Results of a two-factor system of analysis of covariance of differences in performance in solving problems to determine the methods of evaluation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Test of arithmetic differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(\bar{x})</td>
<td>s</td>
<td>F</td>
</tr>
<tr>
<td>EG (Experimental Group)</td>
<td>3.418</td>
<td>1.272</td>
<td>4.756</td>
</tr>
<tr>
<td>CG (Control Group)</td>
<td>2.784</td>
<td>1.135</td>
<td>7.809</td>
</tr>
</tbody>
</table>
Loss Levene F-test (F=1.244, P=0.297) and the test of the homogeneity of regression coefficients (F=0.648, P=0.422) confirm the eligibility of the assumptions of homogeneity of variances and homogeneity of the regression coefficients. Therefore, we can proceed with the analysis of the differences between the achievements of the groups. Analysis of differences between the average achievements of the users of e-learning teaching materials and those without was statistically significant (F=4.756, P=0.031). The users of e-learning teaching materials were successful in solving problems of evaluation strategies, as shown in their higher average achievement ($\chi_{\exp}=3.418, \chi_{\text{contr}}=2.784$).

**Conclusion**

E-learning courseware, in terms of used strategies, is more effective than traditional learning materials, therefore, it should be further promoted. Promotion of its preparation can be one of the fundamental tasks of the education of prospective teachers, as well as subsequent lifelong learning among teachers. A prerequisite for the promotion of e-learning material preparation, irrespective of their purpose and nature, is the positive attitude of the future teachers to teaching content in this area. According to research on the generation of prospective teachers, this condition has been fulfilled. The results show that in the young generation there is increased willingness to use ICT in education, preparation and dissemination of e-learning materials. There is a surge in the popularity of the content, associated with using authorized tools, therefore software for producing e-learning educational materials.

Development of a model of e-learning for computer science class teachers is of high significance in the development of education adapted to the needs of a knowledge society and to realize their scientific contributions to the subject area. The main scientific contribution of the proposed research is to build a system for the management of the educational process in the field of e-learning through the implementation of different models of e-learning and continuous evaluation and adaptation of the models. In this sense, the results of this study provide an insight into the capabilities of different models of e-learning management and e-learning methods in teaching computer science as well as other subjects.
References


English Oral Skills Training through Theater Performance in an EFL Setting

Abstract

We examined the use of dramatic/theater presentation for teaching oral skills to 37 Taiwanese EFL undergraduate students, with the main goal being to determine whether such strategies and performance experiences positively support oral skills in terms of motivation and achievement. Data were collected via performance evaluations, observations, a seminar, individual interviews, and a questionnaire. Results indicate significant increases in learner motivation and oral English achievement. Students were actively engaged and willing to put significant time and effort into the project. However, the process strongly affected some students in terms of performance-related stress.

Keywords: drama-based strategies, theater performance, English oral skills, university EFL students, Taiwan.

Introduction

The use of theater performance for English oral training was primarily inspired by Heathcote’s (1991) drama in education theory. Her work has triggered many efforts to apply drama to various content areas (cf., e.g., Hesten, 1994; Johnson, 1994; Kanita, 1995; Kato, 1993; Rouse, 1992; Shillingford, 1994). In her comprehensive review of research on the link between drama and language arts, Wagner (1998) asserts that “drama is powerful because its unique balance of thought and feeling makes learning exciting, challenging, relevant to real life concerns, and enjoyable” (p. 9). Evidence supporting the use of drama techniques for language

In addition, drama activities are effective for both language teachers and students because they involve self-expression and risk to psychological well-being when trying to communicate, which can result in significant improvement in language learning outcomes (Smith, 1984). Drama refers not only to performance, but also to the process of language learning. Dougill (1994) asserts that drama performance requires students to devote extensive time and energy to learning objectives and achieving realistic English learning goals. Nine reasons were given for using drama activities for language learning: motivation, familiar activities, confidence, group dynamics, different learning styles, language personalization, language-in-context, cross-curricular content, and what she calls the “place of a lesson” (Philips, 1999).

In Taiwan, oral-oriented language training via drama has not received a great deal of research attention (Kao & O’Neill, 1998). Thus, the purpose of this study was to investigate (a) the effectiveness of drama techniques for teaching oral skills to a group of Taiwanese English as a Foreign Language (EFL) undergraduate students, and (b) how drama techniques and theater performance can motivate oral English learning.

**Methodology**

**Participants and Settings**

The study participants were 37 students (11 male, 26 female) who performed on stage. The majority (94.6%) of them were between the ages of 21 and 25. Since drama-related language learning activities are primarily based on students’ individual personalities rather than strict interpretations of plays (Maley & Duff, 1978), the instructor took control of writing the initial scripts and revising them during the project. Another project goal was to help students become familiar with various aspects of contemporary theater, including performance, production, and English language content. A 90-minute final performance consisted of a 10-minute opening, a 25-minute performance of a short play entitled *Cabaret*, a 10-minute performance of “Sing, Sing, Sing” (from *Little Shop of Horrors*), a 20-minute performance of a short play entitled *Creatures on the Rainbow*, and a 25-minute performance of a short play entitled *Star Restaurant*. 
Data Collection and Analysis

A rubric for scoring drama/theatre performance evaluation from the Ohio Department of Education was used to score the individual student’s drama performance by the instructor and three student directors. Evaluation parameters included physical performance, imagination, improvisation, characterization, engagement, technique, communication of meaning, and overall performance. Each item was scored according to the range of 0 (poor) to 3 (excellent); the highest possible score was 24. Of the 37 participants, 12 played multiple roles; therefore each evaluator completed 49 pre – and post-evaluation forms.

In terms of performance self-perceptions, the participants were asked to give responses to a 40-item questionnaire using a five-point Likert scale. Topics included background information, teacher-student and student-student interaction, learning motivation, learning achievement, and self-reflections on performance. Cronbach’s alpha of .87 indicated high questionnaire validity. Mean, standard deviation, and percentages were calculated, and a paired sample t-test was conducted to compare the means of pre – and post-performance evaluations. A one-way ANOVA was used to compare mean differences between males and females (significant at p<0.05). Other data included rehearsal and final performance observations, a post-performance conference, individual interviews, and content analysis of a post-performance seminar.

Procedure

The focus during the fall semester was on recruitment, basic theater knowledge, and training. During recruitment the instructor held a simulated audition, with the students given play scripts for rehearsal in advance. In an attempt to support the participants’ best interests; great effort was put into placing individuals in their most suitable roles. To increase the sense of full and personal involvement in the learning process, the students were allowed to make modifications to their characters within the dramatic texts. It was assumed that doing so helped trigger their awareness of both language competences and acting abilities. During the spring semester the emphasis was on training and rehearsals, with the participants encouraged to immerse themselves in the story, characters, plots, and author viewpoints and attitudes, while also making personal and creative efforts to enact the text. The instructor made observations, videotaped and photographed the participants during all the phases of the production process; this information was used later to analyze how theater performance enhanced (or failed to enhance) oral English skills development. In addition, individual interviews were conducted with ten students. A post-performance seminar was organized to let students share
Findings

Theater Performance Evaluation
As shown in Table 1, a significant difference was found between the pre- and post-evaluation scores given by the instructor ($t=-11.622, p=0.000$) and student directors ($t=-4.375, p=0.000$); in both cases, the post-evaluation scores ($M=8.43, M=14.91$) were significantly higher than the pre-evaluation scores ($M=16.26, M=17.17$) (Table 2).

Table 1. Results from Paired Sample t-tests of Theater Performance Evaluation Data

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor’s pre- and post-eval-</td>
<td>-7.826</td>
<td>4.567</td>
<td>.673</td>
<td>-9.182 to -6.470</td>
<td>-11.622</td>
<td>45</td>
<td>.000</td>
</tr>
<tr>
<td>ations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student directors’ pre- and</td>
<td>-2.261</td>
<td>3.505</td>
<td>.517</td>
<td>-3.302 to -1.220</td>
<td>-4.375</td>
<td>45</td>
<td>.000</td>
</tr>
<tr>
<td>post-evaluations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Descriptive Statistics for Theater Performance Evaluation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>SD</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-evaluation</td>
<td>8.43</td>
<td>46</td>
<td>4.097</td>
<td>.604</td>
</tr>
<tr>
<td>Post-evaluation</td>
<td>16.26</td>
<td>46</td>
<td>4.809</td>
<td>.709</td>
</tr>
<tr>
<td>Student directors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-evaluation</td>
<td>14.91</td>
<td>46</td>
<td>3.800</td>
<td>.560</td>
</tr>
<tr>
<td>Post-evaluation</td>
<td>17.17</td>
<td>46</td>
<td>2.644</td>
<td>.390</td>
</tr>
</tbody>
</table>

Questionnaire Responses
As shown in Table 3, the majority of the students responded positively ($M=3.91$) to items in this category, indicating a positive impact of theater performance on student-student interaction ($M=4.11$), especially in terms of learning to respect others ($M=4.00$). The responses also indicated that the students viewed col-
laboration as key to a successful performance ($M = 3.97$). In addition, most of the students perceived themselves as actively participating in team meetings and discussions throughout the project ($M = 3.95$).

**Table 3.** Descriptive Statistics for Self-Perceived Teacher-Student and Student-Student Interaction Levels (n=37)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participated in meetings and discussions.</td>
<td>37</td>
<td>3.95</td>
<td>.780</td>
</tr>
<tr>
<td>Provided assistance when needed.</td>
<td>37</td>
<td>3.89</td>
<td>.699</td>
</tr>
<tr>
<td>Enjoyed working with teammates.</td>
<td>37</td>
<td>3.95</td>
<td>.575</td>
</tr>
<tr>
<td>Learned to deal with individual differences.</td>
<td>37</td>
<td>3.89</td>
<td>.658</td>
</tr>
<tr>
<td>Learned to respect one another.</td>
<td>37</td>
<td>4.00</td>
<td>.782</td>
</tr>
<tr>
<td>Learned to accept strengths and shortcomings.</td>
<td>37</td>
<td>3.89</td>
<td>.737</td>
</tr>
<tr>
<td>Understood the importance of collaboration.</td>
<td>37</td>
<td>3.97</td>
<td>.726</td>
</tr>
<tr>
<td>Enhanced interpersonal skills.</td>
<td>37</td>
<td>3.73</td>
<td>.871</td>
</tr>
<tr>
<td>Became more caring and learned to show appreciation.</td>
<td>37</td>
<td>3.81</td>
<td>.776</td>
</tr>
<tr>
<td>Positive impact on teacher-student interaction.</td>
<td>37</td>
<td>3.86</td>
<td>.751</td>
</tr>
<tr>
<td>Positive impact on student-student interaction</td>
<td>37</td>
<td>4.11</td>
<td>.737</td>
</tr>
</tbody>
</table>

Regarding the motivation to improve their oral English, the results shown in Table 4 suggest that most of the students ($M = 3.97$) put in a great deal of time and effort to understand the play scripts. In addition, their responses in this area indicate self-perceptions that the performance project made them work hard on pronunciation skills ($M = 3.95$) and increased their oral English learning motivation ($M = 3.86$). However, some students clearly struggled with and/or contemplated abandoning the final performance due to the perceived difficulty of acting on stage ($M = 3.84$).

**Table 4.** Descriptive Statistics for Self-perceived Motivation to Improve Oral English (n=37)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivated me to work hard on pronunciation.</td>
<td>37</td>
<td>3.95</td>
<td>.664</td>
</tr>
<tr>
<td>Motivated me to put time and effort into comprehending scripts.</td>
<td>37</td>
<td>3.97</td>
<td>.866</td>
</tr>
<tr>
<td>I contemplated abandoning the performance.</td>
<td>37</td>
<td>3.84</td>
<td>.688</td>
</tr>
<tr>
<td>I tried to overcome problems by using a dictionary, asking for assistance, etc.</td>
<td>37</td>
<td>3.84</td>
<td>.800</td>
</tr>
<tr>
<td>The project increased my motivation to improve my oral English.</td>
<td>37</td>
<td>3.86</td>
<td>.713</td>
</tr>
</tbody>
</table>
As shown in Table 5, the students responded positively to the questionnaire items on learning achievement (M=3.85). They expressed an especially strong opinion that the theater performance helped them increase their creative imagination (M=4.11) and body control (M=3.95). In addition, the participants clearly believed that the process not only improved their own oral English abilities (M=3.92), but also encouraged greater use of English among their classmates (M=3.89).

<table>
<thead>
<tr>
<th>Improved my oral English.</th>
<th>37</th>
<th>3.92</th>
<th>.640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved my listening comprehension.</td>
<td>37</td>
<td>3.70</td>
<td>.878</td>
</tr>
<tr>
<td>Improved my reading comprehension.</td>
<td>37</td>
<td>3.84</td>
<td>.764</td>
</tr>
<tr>
<td>Encouraged greater use of English.</td>
<td>37</td>
<td>3.89</td>
<td>.658</td>
</tr>
<tr>
<td>Improved body control.</td>
<td>37</td>
<td>3.95</td>
<td>.815</td>
</tr>
<tr>
<td>I was encouraged to speak English.</td>
<td>37</td>
<td>3.76</td>
<td>.925</td>
</tr>
<tr>
<td>Increased my confidence in oral English.</td>
<td>37</td>
<td>3.84</td>
<td>.800</td>
</tr>
<tr>
<td>Helped me understand my English strengths and weaknesses.</td>
<td>37</td>
<td>3.86</td>
<td>.751</td>
</tr>
<tr>
<td>Increased my language learning potential.</td>
<td>37</td>
<td>3.84</td>
<td>.602</td>
</tr>
<tr>
<td>Increased my creative imagination.</td>
<td>37</td>
<td>4.11</td>
<td>.614</td>
</tr>
<tr>
<td>Helped me gain a sense of achievement.</td>
<td>37</td>
<td>3.76</td>
<td>.796</td>
</tr>
</tbody>
</table>

Table 6 presents a summary of the performance reflection findings, which had the highest average rating (3.97), indicating strong participant satisfaction with the overall project (M=4.27). The majority expressed a willingness to spend time preparing for the final performance and learning from their teammates’ acting efforts (M=4.14), as well as their feeling that performance success made it worth the effort (M=4.0).

<table>
<thead>
<tr>
<th>There was sufficient time for the project.</th>
<th>37</th>
<th>3.92</th>
<th>.862</th>
</tr>
</thead>
<tbody>
<tr>
<td>The script suited my English ability.</td>
<td>37</td>
<td>3.81</td>
<td>.701</td>
</tr>
<tr>
<td>I fully participated in the preparation process.</td>
<td>37</td>
<td>3.84</td>
<td>.764</td>
</tr>
<tr>
<td>I learned from my teammates’ acting skills.</td>
<td>37</td>
<td>4.14</td>
<td>.713</td>
</tr>
<tr>
<td>The theater performance was challenging.</td>
<td>37</td>
<td>3.84</td>
<td>.866</td>
</tr>
</tbody>
</table>
English Oral Skills Training through Theater Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I willingly spent time preparing for the performance.</td>
<td>37</td>
<td>4.14</td>
<td>.673</td>
</tr>
<tr>
<td>I was nervous on stage during the performance.</td>
<td>37</td>
<td>4.00</td>
<td>.913</td>
</tr>
<tr>
<td>The instructor provided prompt assistance.</td>
<td>37</td>
<td>4.05</td>
<td>.848</td>
</tr>
<tr>
<td>The success of the performance made it worth the effort.</td>
<td>37</td>
<td>4.00</td>
<td>.667</td>
</tr>
<tr>
<td>The performance was not as scary as I thought.</td>
<td>37</td>
<td>3.95</td>
<td>.664</td>
</tr>
<tr>
<td>I was very satisfied with my performance.</td>
<td>37</td>
<td>4.00</td>
<td>.745</td>
</tr>
<tr>
<td>Overall, I was satisfied with the project.</td>
<td>37</td>
<td>4.27</td>
<td>.652</td>
</tr>
<tr>
<td>I would love to participate in theater performance again if given the chance to do so.</td>
<td>37</td>
<td>3.95</td>
<td>.815</td>
</tr>
</tbody>
</table>

**Observation, Documentation, and Instructor Reflection**

The results indicate that many students struggled at the post-training stage; according to the attendance records, only a few students can be said to have participated consistently. However, according to the instructor’s observations, during the second half of the spring semester the students expressed a much more positive attitude toward performance training, and most participants showed increased collaboration and participation in rehearsals; this was especially true during the final two weeks leading up to the final performance. This result underscores the need for good time management for such a long and complex project.

We learned how difficult it was to give all students prompt and practical assistance, especially in terms of conflicts among students. Accordingly, we suggest that teachers directly teach students skills for conflict management and collaboration/cooperation in addition to language skills. Finally, we found that doing action research enhanced self-esteem and professional development.

**Individual Interviews**

After the project had been completed, the instructor arranged interviews with 8 participating students on various aspects of their performance experiences. Eleven comments were repeated by multiple students:

- We learned the importance of a clear voice and expressive body movement. (7)
- I tried very hard to improve my pronunciation. (6)
- I really enjoyed this English performance experience. (5)
- I realized the importance of collaborative work. (5)
- This experience helped me develop oral fluency. (5)
- It enhanced my confidence in expressing myself through English performance. (4)
I became more interested in learning English. (4)
I became more confident in performing in public. (3)
I am more aware of the relationship between sound and meaning. (3)

**After-Performance Seminar**

Maximum benefits of collaboration were not achieved during this project—the students did not cooperate well and occasionally argued over who had put more effort in the production. This underscores the importance of student-student and instructor-student relationships in such a long-term project. While progress was slowed down by different emotional reactions at the preparation stage, no students withdrew from the project due to emotional clashes. They eventually learned how to deal with emotional intensity in order not to let it wrongly influence their behaviors. However, some students were very appreciative of the class and believed that they had made progress in their oral English through the preparation and performance process.

**Conclusion**

The results indicate that the performance project was successful in terms of increasing the participants’ motivations and oral English achievement, as well as their knowledge of theater production and acting skills. The results of the statistical analysis of the participants’ questionnaire responses indicate that theater performance has the potential to enhance Taiwanese students' oral English abilities. This finding is also supported by the combination of observations, documentation, interviews, and the post-performance seminar. The participating students generally felt that the success of their performance was worth the effort, and that they benefited from the project in terms of their oral English skills. The prospect of performing on stage encouraged the students to cooperate with each other. The process affected some students emotionally due to the performance-related stress, but they overcame their problems and did not drop out.

Future research plans include determining optimum parameters for theater performance in terms of EFL instruction. An effort will also be made to determine differences in needs and achievements among learners at different proficiency levels, between male and female learners, and across other common variables.
References


**Appendix**

**Appendix 1: Rubric for Scoring Drama/Theatre Performance Evaluation**

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>EMERGING (0 Points)</th>
<th>TYPICAL (1 Point each)</th>
<th>ABOVE AVERAGE (2 Points each)</th>
<th>SUPERIOR (3 Points each)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Performance</strong></td>
<td>Uses limited physical movement in performance. Voice sometimes difficult to hear or understand.</td>
<td>Vocal performance is audible and clear. Occasionally uses body and movement to enhance character.</td>
<td>Uses whole body and voice in performance, consistently uses voice and body to enhance character.</td>
<td>Consistently commits voice and whole body to create a detailed and realistic performance, shows advanced physical coordination and vocal control.</td>
</tr>
<tr>
<td><strong>Imagination</strong></td>
<td>Only with considerable assistance invents dramatic situations, original ideas, and unusual solutions</td>
<td>With moderate assistance invents dramatic situations, original ideas, and unusual solutions</td>
<td>With minimum assistance invents dramatic situations, original ideas, and unusual solutions</td>
<td>Without assistance, independently invents dramatic situations, original ideas, and unusual solutions</td>
</tr>
<tr>
<td><strong>Improvisation</strong></td>
<td>Spontaneously creates an ineffective improvisation as compared to those students of the same age or experience</td>
<td>Spontaneously creates an acceptable improvisation that is typical of students of the same age or experience</td>
<td>Spontaneously creates an effective improvisation that is advanced for students of the same age or experience</td>
<td>Spontaneously creates a highly effective improvisation that is extremely advanced for students of the same age or experience</td>
</tr>
<tr>
<td><strong>Characterization</strong></td>
<td>The character lacks clarity, is underdeveloped, and/or not very believable</td>
<td>The character has some clarity, is partially developed, and/or is somewhat believable</td>
<td>The character is generally clear, developed, and believable</td>
<td>The character is exceptionally clear, well-developed, and believable</td>
</tr>
<tr>
<td><strong>Engagement</strong></td>
<td>Performs with little energy, focus, and/or commitment</td>
<td>Performs with some energy, focus, and commitment</td>
<td>Performs with energy, focus and commitment</td>
<td>Performs with unusual energy, intensity, focus, and commitment</td>
</tr>
<tr>
<td>CRITERIA</td>
<td>EMERGING (0 Points)</td>
<td>TYPICAL (1 Point each)</td>
<td>ABOVE AVERAGE (2 Points each)</td>
<td>SUPERIOR (3 Points each)</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Technique</td>
<td>Technique is typical of students of a younger age or of less training</td>
<td>Technique is typical of students of the same age or training</td>
<td>Technique is advanced compared to students of the same age or training</td>
<td>Technique is superior compared to students of the same age or training</td>
</tr>
<tr>
<td>Communication of Meaning</td>
<td>Rarely uses voice, facial expression, gesture, and body movement effectively to communicate meaning</td>
<td>Sometimes uses voice, facial expression, gesture, and body movement effectively to communicate meaning</td>
<td>Generally uses voice, facial expression, gesture, and body movement effectively to communicate meaning</td>
<td>Consistently uses voice, facial expression, gesture, and body movement effectively to communicate meaning</td>
</tr>
<tr>
<td>Overall Performance</td>
<td>Performance is typical of students of a younger age or students with less training</td>
<td>Performance is typical when compared with students of the same age or training</td>
<td>Performance is advanced when compared with students of the same age or training</td>
<td>Performance is superior when compared with students of the same age or training</td>
</tr>
</tbody>
</table>

Emerging Total Points ________
Typical Total Points ________
Above Average Total Points _____
Superior Total Points ________

Total Points ______________________
Didactic and Educational Implications of Applying ICT in Homework Completion

Abstract

The article reveals diagnostic research findings which concerned the use of ICT in homework. The formulated conclusions involve capability of homework check if and to what degree it is copied from websites. Thus also becoming a reference point in future activities aimed at increasing homework.

Keywords: homework, ICT, education, teacher

Introduction

In the education systems of various countries, the assignment of homework has its own history and traditions. Homework itself varies in its function, the manner in which it is given, the evaluation criteria, and the consequences of students’ failure to complete it. In addition to the countries where work is traditionally assigned to be completed at home, in some countries no homework is assigned, while in others homework is replaced by extra work conducted on school grounds outside of classes.

In the Polish education system, homework is perceived as an integral part of the didactic process and its completion is one of the basic duties of students.

The universality of possessing and using ICT, and especially access to the Internet, has resulted in this medium – relatively cheap, easy to use, within reach, containing vast amounts of information and being a wide-ranging tool of indirect, interpersonal communication – being used by students for completing different educational activities, homework being one of them.
On the one hand, the Internet has provided rich sources of knowledge, often used to aid the completion of homework; on the other hand, exploiting this medium has become a source of didactic and educational problems. These problems have to be solved by the teachers assigning homework, who must take care not only to ensure proper implementation, but also about having an impact on shaping their pupils’ attitudes and values, especially honesty and responsibility.

**Homework assignment and evaluation conditions**

The nature of homework assignment depends on its goals. The goals are typically: acquisition of new material, consolidation of the acquired material, shaping skills and habits, and developing students’ independence and creativity (Okoń, 2003, p. 331). These goals are related mostly to the didactic area. However, by choosing appropriate homework topics and the manner of assigning them as well as the student’s independent work, and a correct method of evaluation, it is possible to show their educational impact (Musioł, 2007, p. 525).

Before making the decision of assigning homework, the teacher should conceptualize appropriate goals and estimate the chance of the student’s successful and independent completion of it and, in some cases, even the costs of its completion. When assigning homework, it is essential that the teacher does not just provide the homework and a short explanation. While performing didactic activities during classes, the student unable to understand instructions can ask the teacher questions, which is impossible when it comes to homework. Thus, the teacher assigning homework should make sure that all students correctly understand their intentions and expectations, as well as the sources that the teacher permits for the completion of the homework. Certain instructions should be emphasized to avoid confusion or doubt, such as: ‘make use of the website www...’; ‘use the Internet’ or ‘please, do not use the Internet.’ The exception to this is a situation when the teacher, following the Socratic dialogue (of master-student), apart from direct interaction, encourages indirect communication from pupils (Juszczyk, 2006, p. 36) with the use of ICT tools even in the event of difficulties with completing their homework.

In the process of evaluation of the student’s homework, one can distinguish two interrelated activities: checking if the homework has been done and evaluating its quality. The process of evaluation is determined by the form of work: oral, written, manual, portfolio, practical or mixed (Śmietana, 2006, p. 793). In reality, completion of each of the given forms may be supported by information or material taken from the Internet.
The process of checking homework may include:

- **Quantity** – checking if all students, or a random group of students, have completed homework
- **Quality** – checking the correctness and independence of homework, either of one or several students,
- **Mixed** – checking if all or some students have completed their homework, and checking the quality of several students.

Punctual homework evaluation is one of the conditions of the teacher’s appropriate didactic and educational work. The teacher’s failure to do so results in students doing their homework irregularly or not at all. It then may happen that they get the lowest marks when the teacher “surprises” them with this evaluation.

### Using ICT tools for homework

In kindergartens, where the development of ICT tool competency is realized, there is cooperation between teachers and parents, the result of which is that children consolidate the skills they gain in kindergarten while at home (Watoła, 2009, pp. 112–117). Such homework is assigned at schools that require the use of these tools, e.g. for information technology. When it comes to other subjects, there are two aspects to consider: these tools may in fact aid the student with completing their homework, but they may also be misused by, e.g., copying or sending homework.

Of all the ICT tools available at home that are suitable for completing homework, students most often use the Internet, searching for information or pre-prepared work and communicating with other students, either to consult them or to trade prepared materials. Often they do it by means of mobile appliances, such as smartphones, making calls, sending text messages (SMS) or photos (MMS) and making use of the above-mentioned Internet services (Huk, 2012, p. 191).

If students operate in the field of social media, they communicate, create and search for information there. This available form of media becomes a reason for the creation of a virtual community of students who take knowledge not only from the teacher – a ‘master’ – but also from each other. Making use of the opportunities given by these forms of media for didactic and educational goals has become a challenge for contemporary education (Frania, 2012, p. 88).

From the didactic and educational point of view, plagiarism – the ability to copy ready-made work or information, often without analyzing it, as well as sharing ready-made work electronically (files, photos of work, or scans) – is alarming.
To understand this phenomenon empirically, research with a diagnostic poll method and document analysis has been conducted. The methodological problems were as follows:

- What kind of homework is completed by means of ICT tools?
- What proportion of students makes use of ICT tools in the situations when the teacher allows for the use of all the possible sources of knowledge?
- What proportion of students makes use of ICT tools in the situations when the teacher allows students to make use of printed sources of knowledge only?
- Why do students copy homework from the Internet?
- What proportion of students has been punished because of copying homework from the Internet?
- What proportion of students communicates with each other in the matter of doing homework?
- What proportion of students makes use of ICT tools to send completed homework?

The poll has shown that in elementary school, information taken from the Internet or work publicized there are especially popular when it comes to doing homework from the humanities (Polish, foreign languages, history and society) and science, as homework in these subjects has most often the form of papers or essays.

The main reason for copying information from the Internet in the course of doing homework, as indicated by 44% of the surveyed students, was a desire for getting better marks. In the opinion of 31% of the surveyed, they devote too much time to learning, and making use of the websites containing information needed for doing homework is much easier for them. 15% of those surveyed claim that they do not believe in their skills, and using information from the Internet is a specific ‘cure-all’ for their low self-esteem.

14% of all the surveyed students said that they did not realize that copying information from the Internet and presenting it as their own was a crime and a lie.

A probable reason for such frequent copying of information from the Internet in homework is the tolerance of the practice by teachers and even a lack of response against highly evident signs of plagiarism, e.g. in the form of the website name apparent on the printed page, which is handed in to the teacher. Among the students admitting to having copied homework from the Internet, only 23% have been criticized for it by teachers. Moreover, the mark for completing homework is of low importance, thus students do not fear the consequences concerning the possible outcome.
In order to check the sources of information used by students while doing homework in the subjects: Polish, history and social studies, the analysis of work completed by parallel sixth-grade students of elementary schools has been made:

1. In the classes where the students should not use electronic sources while doing homework, the instruction said: “Write an essay on…using such sources as textbooks, books, and encyclopaedias, and edit it in a text editor.”

2. In the classes where the students could use also electronic sources while doing homework, the instruction said: “Write an essay on…using all available knowledge sources, and edit it in a text editor.”

To check the sources of information used by students, and to acknowledge if they make use of pre-done work, a demo version of one of the available anti-plagiarism applications was implemented, by means of which one could check documents of low volume in terms of similarity to texts accumulated in the system and in the Internet resources. The application gave information on the volume and source of borrowings, and showed it by giving the percentage value of the “probability factor”.

In the classes where the students were supposed to do homework without using a computer and the Internet, 42% of the students did not comply with the instructions, copying extracts or the whole contents from websites. In turn, in the classes where the students could use information from all the possible sources of knowledge, 81% of the students copied homework from websites. The data of the results are juxtaposed in Table 1.

Table 1. Juxtaposition of the “probability factor” occurrence in the homework of students who were supposed to make use only of printed sources and in the homework of students who could use all the available sources of knowledge (N=229)

<table>
<thead>
<tr>
<th>Convergence of contents of homework and contents of websites</th>
<th>Probability of use of () while completing homework</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>An instance of convergence of contents of homework and contents of websites</td>
<td>Printed sources only</td>
<td>All available sources of knowledge</td>
</tr>
<tr>
<td>Lack of convergence of contents of homework and contents of websites</td>
<td>65</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>117</td>
</tr>
</tbody>
</table>

Source: own poll

For Table 1 data:

\[ \chi^2 = 37.388 \]
For degrees of freedom:
\[ df = (r - 1) (k - 1) = 1 \]
and assumed statistical significance \( \alpha = 0.05 \), the theoretical critical value \( \chi^2 \alpha \) (array) for the test was:
\[ \chi^2 \alpha = 3.84 \]

If:
\[ \chi^2 \geq \chi^2 \alpha \]
then there were grounds to reject the hypothesis of mutual independence of the examined features and to assume a new hypothesis of a relationship between them. The degree of convergence was:
\[ c = 0.375 \text{ with } c_{\text{max}} = 0.707 \]

The adjusted value of the convergence factor was:
\[ c_{\text{kor}} = 0.53 \]
and the correlation was:
\[ r_c = 0.404 \]

The strength of the relationship between the variables is low because it falls within the interval from 0.21 to 0.40 (J.P. Guilford, 1964, p. 157).

Even though there is a dependence between indicating the sources of knowledge possible to make use of while doing homework and the occurrence of the similarity of their contents to website contents, the phenomenon of not complying with the instruction of not using the Internet while doing homework by 42% of the students is undesirable, the occurrence of which teachers should effectively react against.

While examining the documents, the arithmetic means of the marks obtained by the students in the subjects: Polish, history and social studies, were calculated, and the juxtaposition of these means and the correspondence of homework contents with website contents was made. The juxtaposition is shown in Table 2.

**Table 2.** The arithmetic means obtained by students in the subjects: Polish, history and social studies, and the convergence of contents of homework with website contents (N=229)

<table>
<thead>
<tr>
<th>The convergence of contents of the homework and contents of websites</th>
<th>Degree of arithmetic mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Up to 3.0</td>
</tr>
<tr>
<td>An instance of convergence of contents of homework and contents of websites</td>
<td>8</td>
</tr>
</tbody>
</table>
The convergence of contents of the homework and contents of websites | Degree of arithmetic mean
---|---
| Up to 3.0 | from 3.1 to 4.0 | from 4.1 to 5.0 | Above 5.1 | Total
The lack of convergence of contents of homework and contents of websites | 2 | 36 | 44 | 5 | 87
Total | 10 | 115 | 99 | 5 | 229

Source: own poll

For Table 2 data:

\[ \chi^2 = 13.468 \]

For degrees of freedom:

\[ df = (r - 1) (k - 1) = 3 \]

and assumed statistical significance \( \alpha = 0.05 \), the theoretical critical value \( \chi^2 \alpha \) (array) for the test was:

\[ \chi^2 \alpha = 7.82 \]

If:

\[ \chi^2 \geq \chi^2 \alpha \]

Then there were grounds to reject the hypothesis of mutual independence of the examined features and to assume a new hypothesis of the relationship between them. The degree of correspondence was:

\[ c = 0.236 \text{ with } c_{max} = 0.787 \]

The correlated value of the correspondence factor was:

\[ c_{kor} = 0.3 \]

and the correlation was:

\[ r_c = 0.243 \]

The strength of the relationship between the variables is low because it falls within the interval from 0.21 to 0.40 (J.P. Guilford, 1964, p. 157).

Thus, the research has shown a greater tendency for copying work indiscriminately from the Internet by the students who have worse marks (with lower arithmetic means).

A lot of the analysed homework was done by the students by making compilations of text extracts from several websites. By making 'clicks' with a mouse, a stu-
dent goes through their contents, or rather titles, having the impression that he has all the knowledge contained in these hypertexts. Meanwhile, they get familiar only with a couple of catchwords and thus enter into the world of the “Xerox-culture”. Mostly, students make use of a lot of chaotic and scattered “encyclopaedic” information, the result of which is that they do not possess a systematic knowledge. It has its implications at the further stages of education. Even in the work of the students of humanities, such as pedagogy, often one can come across a lot of information taken from the Internet, having no logical sequence – a so-called “information mosaic”. In such work, between constituting paragraphs, there are discrepancies with regard to people, places or time. What is more, conversations with the authors of this homework prove that they lack the ability to perceive the information contained as a whole.

In order to reduce the occurrence of this mosaic among older pupils and students, we should shape their abilities in regard to using information from the Internet earlier, at the time when they start to use the Internet sources.

**Using the Internet to send homework**

By design, all work should be completed by students independently. There is nothing wrong if parents, older brothers or sisters, or friends help in doing homework, provided that this help is reduced to an essential minimum and they do not do the work instead of the student.

Completed homework copied by other students is undesirable. Not only does it fail to fulfil its assumed functions, but also it has to be treated as cheating. Copying (often called ‘cribbing’) of homework is an old and popular phenomenon in Poland. Unfortunately, ICT comes to the aid of rapid and often nervous copying of homework before classes. Completed work is sent in an electronic form by means of e-mail or other communicators. In turn, work done by hand in the traditional form is sent in the same way, after being scanned or photographed with a digital camera or phone.

In the polls conducted among the elementary school pupils, 29% of them admitted that they communicated with friends in order to complete homework. In the same polls, 19% of the students admitted to sending completed work.

Independence of homework completion is the most difficult criterion of evaluation, though not impossible. Most often, teachers pose questions concerning its completion, e.g. what the source of the given information is, why one applied this formula, how one has transformed it, etc.
Summary

Homework constitutes supplementation of the didactic activities conducted during classes. Proper assignment and evaluation of homework have desirable didactic and educational implications. The richness of information on the Internet and easy access to it results in students helping each other or copying it.

Teachers who mark students’ homework should check if and to what degree it is copied from websites. They can do it:

In the case of homework handed in an electronic form (saved on different storage media or sent by e-mail) – by using applications that check documents for similarity to other texts accumulated in the system or in the Internet resources,

In the case of handwritten or printed homework – by getting familiar with several websites that appear prominently on the most popular search engines among students (as Google, Mozilla, Tlen) after entering key words from the homework.

In the case of printed homework – by paying attention to the printout features (e.g. easily seen website address).

Efficient and user-friendly anti-plagiarism software is commercial, thus schools or the administrative bodies should buy a license fee and provide all the employed teachers with the possibility of using it.

Moreover, keeping in mind the possibility of sharing all or parts of homework online, teachers may assign homework requiring different data, or even different instructions, depending on students’ abilities.

The possibility of making a compilation of information obtained from several websites, which lack a logic sequence, and without making reflections on them, leads to the handing in of homework with an “information mosaic“, which can be one of the marking criteria for such homework.

In the era of students using the Internet to complete their work, going alone from the quantity evaluation of work to the quality one, or using a mixed one, becomes more important.

Using the Internet has become one of the most essential elements of two key abilities. The first being the ability to search for, select and use data, and the other one is the ability to receive and send text messages, by means of e-mail and Internet news feeds (Huk, 2008, p. 90). Thus, teachers should not battle against using the Internet to complete homework but rather express clearly which work should be done without using this medium, require the source of information, and condemn every confirmed case of dishonesty, then mark it according to the regulations of the in-school grading system.
References


Adolescent Immigrant Students’ Learning of Second Languages

Abstract

The objective of this study is to analyse the results of an educational intervention with adolescent immigrant students, focusing on the degree of influence that the affective factor, attitude, school adaptation and the use of Web 2.0 tools, specifically video blogs, have on oral practice within the process of teaching-learning a second language. Both quantitative and qualitative techniques were used for data collection, management and analysis. Out of all the results obtained, the most relevant is that carrying out a language teaching-learning process based on the aforementioned variables promotes a more positive attitude in adolescent immigrant students towards oral language practice and a greater involvement at school and in their teaching-learning process. By way of conclusion, respecting these affectivity-related variables gets these types of students, who are new to the education system, on the right track to a more satisfactory oral practice.

Keywords: blog, school adaptation, attitude, affectivity

Introduction

Respecting the affective factor is one of the main bases for the success of both learning and teaching second languages to immigrant students (Arnold, 2000; Cabañas Martínez, 2008; García Mateos, 2008; Instituto Cervantes, 2006, Garay, 2011). Many studies have analysed different aspects of the affective dimension in second language acquisition: self-esteem and oral production (Heyde 1979), self-esteem and listening comprehension, or self-esteem and performance in L2
These studies reveal that the affective dimension must be considered as one of the determining factors in successful learning (Goleman: 1995; Stevick: 1998) and in language acquisition, at least in the area of oral communication (Arnold: 2007; van Lier: 2008; Hablart: 2013). On the same line, Arnold (2000, 2007) specifies that the relationship between the language teaching-learning process and the affective factor is two-way, which makes it necessary for language learning to be worked on together with more complex cognitive theories (Sorden, 2012; Zahir, 2013), and alongside the concept of emotional intelligence (Cabañas Martínez, 2009). This new perspective of complexity, apart from presenting new research challenges in the field of language learning, sheds fresh light on considering the practical benefits of this new vision of pedagogy (Mercer, 2012).

School adaptation has been studied by Vila (1999) and Nikleva (2009), who point out that, apart from actually wanting to learn a language, it is essential to feel comfortable in the world around that language. This feeling, despite being felt in an individual sense, entails a collective responsibility, which underlines the importance of the linguistic and emotional reception given to recently-arrived students.

The possibility to bring genuine importance to the immigrant students’ mother tongues increases to a great extent with the use of new technologies, which are also giving rise to new research perspectives: mobility learning environments (m-Learning) and Web 2.0 applications, such as blogs, paying attention to the intercultural context (Larrea, Raigón & Gómez, 2012) and to the different contexts of technology-mediated interaction (Coscollola & Agustó, 2010).

The choice of a video blog or audiovisual blog (vlog) finds its place in the previous perspective, being used as an instrument to introduce the immigrant students’ own languages into the school, so that the immigrant students can take a central role in their process of learning the second language in question (Zhang & Zhao, 2011; Bustamante, Hurlbut & Moeller, 2012; Chartrand, 2012).

**Methodology**

The objective of this research project is to analyse the viability and effectiveness of using blogs for oral practice in the process of teaching-learning second languages based on respect for the affective factor. It starts with the factors that have an influence on the immigrant students’ process of teaching-learning second languages: the students’ attitude, feeling valued, school adaptation and Web resources. The study focuses on the observation of schools’ current reality and educational intervention that takes into account the aforementioned factors, which will act as a basis on
which to open new roads to further oral language practice in immigrant students who have recently joined the compulsory secondary education system.

Taking the above into consideration on a theoretical level and using the objective described in the previous paragraph as a reference, five variables were determined as the basis of the study:

**Table 1: Study variables**

<table>
<thead>
<tr>
<th>Name of the variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>The attitude shown by students towards the languages that they are learning.</td>
</tr>
<tr>
<td>Valued at school</td>
<td>Feeling valued is a condition for immigrant students' development in the process of teaching-learning a second language and for their adaptation to school.</td>
</tr>
<tr>
<td>Adaptation</td>
<td>School adaptation is a key factor in the development of second language learning, as the latter has a two-way relationship with the former: school adaptation benefits second language learning, and learning the language encourages adaptation.</td>
</tr>
<tr>
<td>Oral aspect</td>
<td>Oral practice in language learning is based on a communicative approach where the simultaneous use of all the languages involved is beneficial to the student.</td>
</tr>
<tr>
<td>Web 2.0 tools</td>
<td>The use of Web 2.0 tools furthers cooperative language learning and enables all students' languages to be present in the classroom for oral practice.</td>
</tr>
</tbody>
</table>

The coding to prepare the qualitative and quantitative data analysis was carried out on these variables. The mixed methodology requires there to be a variety of points of view. In our case, the perspectives of four groups taking part in the experience were selected, using the instruments that ensured the best level of reliability. The points of view and their data collection instruments are as follows:

a. The researcher, collected in a comprehensive research log.
b. Managers of the teaching centres (*Berritzegune*), through interviews.
c. The teaching staff, with an open response survey.
d. The participating students, through two closed response surveys (before and after the intervention).

To analyse the quantitative data, the SPSS 11.5 programme was used, through which the data was processed with a descriptive analysis founded on frequencies, percentages, standard deviations and significance based on the ANOVA. To carry out this analysis, data was obtained from the questionnaires handed out to the students before and after the educational intervention.

For the qualitative part, the data from the interviews and the researcher’s log were analysed using the Atlas.ti 5.0 programme. A hermeneutic unit was created
in which the qualitative data were analysed by creating codes, memos, families and super families, obtaining two types of results: textual and on the relationship between variables summarised in codes.

Lastly, we must point out that the participants were 30 recently arrived students (who had been in Spain for less than 2 years) who were attending two Compulsory Secondary Education schools in Bizkaia (Spain), where they have to learn the two official languages of the Autonomous Community of the Basque Country: Basque and Spanish.

**Results**

The intervention unfolded with the creation of one video blog (vlog) per centre by the recently arrived immigrant students. The objective of the blogs was for future immigrant students to be able to quickly learn the basic structures they would need for the first few months at school in Spanish or Basque, so that they would feel a bit better and more confident. We will present the results of this intervention, following the order of the five variables that make up the research study. They will be mixed, qualitative and quantitative, to provide complete and unified results.

The first variable is what we call “attitude”. Under this heading, the relationship between the immigrant students’ attitude towards the languages they are learning and the influence that this has on their learning was analysed.

As regards their learning of Spanish as an L2, the data from the first survey showed that speaking Spanish was unpleasant for 63.3 %, although 56.7 % found it easy. Furthermore, even though they found the Spanish classes fun (66.7 %), they did not rate the activities carried out in class in the same way, claiming that they found them boring (53.3 %) albeit valid for learning purposes (63.3 %). Regarding Basque as an L2, the data showed a similar situation to the previous case, although this time with generally more favourable percentages.

After the intervention, and bearing in mind the duration of the said intervention (6 months), the questions that took on significance in their responses were the following: “The activities I do to learn in Spanish/Basque classes are valid or not valid”. Where the first survey with regard to the Spanish classes had found that 63.3 % considered them valid and 36.7 % not valid, after carrying out the activities that were put forward in the intervention (making blogs), the survey found that 89.5 % considered them valid as opposed to 10.5 % who claimed they were not. So, as regards Spanish language learners, the validity of the exercises carried out as part of the intervention has been proven.
As regards Basque, 27.3% felt that the exercises they did in ordinary classes were no good for learning and 72.2% felt that they were, despite them finding these classes more boring than the Spanish classes. After the intervention, the responses also improved, as 90.9% found them valid and 9.1% found them not valid. However, the most interesting point in this case is that they liked the activities more, finding them greater fun while also more useful for learning.

The second variable is “feeling valued at school,” which was considered to be an essential conditioning factor for ideal school adaptation and efficient teaching of second language oral practice. The assumption was that, in order for immigrant students to feel valued, it was crucial to place importance and real use on one of the key aspects of their identity: their language(s). Thus, from the analysis of the qualitative data, the immigrant students’ languages were seen to be used at secondary school more as an anecdote than for real, actual communication, despite the teaching staff considering it important for students to keep up their mother tongues, to encourage their self-esteem and to preserve their roots.

As for the students’ opinions, 80% felt that using their language at school would be positive; 86.7% would like to learn their mother tongue at school, and 95.5% would like to be able to use their language to learn Basque, and 89.9% to learn Spanish.

After the intervention, 84.4% of the students gave a positive assessment of the presence of their languages to work on their oral practice of Spanish, and 90% to work on their oral Basque. The reason for this was that they could show they were experts in those languages and because they could contribute something to the school.

The third variable is “adaptation”. School adaptation is a highly important variable in the student’s learning process in general, but this has not been shown to occur in the same way with language learning. In other words, it is not clear whether school adaptation improves language learning or vice versa. In this study, after analysing the results, we observed that it appeared to have a two-way influence, and that the students’ school adaptation had a positive influence on their attitudes towards the second language classes.

Together with this hypothesis we could see that over a third of the participating immigrant students that we surveyed had relationship problems both at school (40%) and in class (43.3%), in spite of the fact that most of the teachers felt that the students were suitably adapted to the school, although in many cases they confused school adaptation with the level of development in their studies or in their learning.

More specifically, 70% of the students confessed to feeling bad in the language classes; 30% indicated that they had a poor relationship with the teachers; and 40% claimed to have a poor relationship with their classmates.
After the intervention, these data were considerably different: 83.3 % answered that they had felt good in class during the intervention; 80 % said that their relationship with their classmates had improved; and 86.7 % said their relationship with the teacher had improved. In general, 90 % said they felt good in the language classes. We can add here that the item (“In class I feel”) takes on relevant significance according to the ANOVA, and very close to that significance we also find the item: “my relationship with my classmates”.

In the fourth variable, “oral aspect,” three essential concepts come together, which are the basis of second language teaching: the communicative point of view; the teaching-learning process as a set of skills; and respect for affectivity. Thus, the noteworthy results from the quantitative point of view are that, for 70 % of the students learning Spanish and 63.6 % of the students learning Basque, the most important thing about the language is learning to speak. For 86.7 % speaking Spanish is nice, and for Basque this figure is 63.3 %, despite the fact that 90 % said it was difficult. These results coincide with the teachers’ perception, who felt that these students’ primary need and obligation was to learn to speak the language. In contrast, according to the students, in the Spanish classes (80 %) and Basque classes (72.2 %) they mostly learned to write and read (70 % in Spanish and 72.2 % in Basque). Together with the affective factor, we can say that 56.6 % of the students felt bad when they had to speak out loud in class.

After the intervention, these perceptions changed and the students indicated that, above all, they had practiced the language orally (78.9 % in Spanish and 81.8 % in Basque), which is significant, and they claimed that oral language practice had not been so stressful for them as it had been in their everyday practice in the classroom.

Finally, we come to the “Web 2.0 tools” variable, where we focus on verifying if the use of Web 2.0 tools encourages cooperative teaching-learning of languages and their oral skill. Furthermore, the use of blogs enables a set of language skills to be developed and for all the students’ languages to be present in the classroom.

From the analysis of the qualitative and quantitative results, we can point out that one of the main features of the active methodology is that it must be cooperative, as cooperation arises from the very essence of Web 2.0. In the intervention, the students talk among themselves constantly in their mother tongue and in the L2, and they give this group experience a positive evaluation, both for what they have learned about the language and for the relationships that they have forged.

In addition, it must be noted that 70 % of the students who took part in the survey use web tools for: speaking with friends (51.7 %), looking up information (44.8 %) and studying (3.4 %). They do not, however, use them for learning
languages (73.3 %) or in language classes (Spanish 73.3 % and Basque 90 %); but 85 % would like to use them for these purposes. After the intervention, 85 % liked seeing their work posted on the Web, 83.3 % liked it that their classmates could enter, see and rate their blog work, and 80 % liked the fact that their teachers could do the same. For all these reasons, 83.3 % wanted to continue using the Internet to learn languages in the future.

Thus, in the analysis of the results, significance was observed through the ANOVA in the item “I use the Internet to learn languages”. These results are justified because they almost always work on paper in the classroom, and using the Internet gave them the chance to create real material themselves, which gave the work a deep sense of reality and meaning. Web 2.0 tools help to boost an active methodology, which makes immigrant students feel more a part of the decisions that are being made, which in turn helps to improve relationships between students, and between students and teachers, proving to be a positive drive in the process of school adaptation.

**Discussion**

In order to reach a series of final conclusions that would open new paths of research, after analysing the qualitative data on each variable and using the aforementioned Atlas.ti 5.0 programme, we drew up a general outline representing the relationships of the variables in the hierarchical order.

As shown on the following concept map (Figure 1), the oral aspect is the main variable and all the others are positioned around it.

**Figure 1:** Hierarchical relationships between variables. Atlas.ti 5.0

With equal importance and at the same level as oral practice, both Internet use (Web 2.0 tools) (variable 5) and attitude (variable 1) have a relationship in which they are the “cause” of oral language learning (variable 4). Consequently, the
presence of all the students’ languages in the second language classroom cannot be merely anecdotal, but rather they must play a relevant role. This is because the presence and use of these languages make the recently arrived students feel valued (variable 3) within the second language teaching-learning process, as they turn the students into experts in something and enable a part of their identity to be shared with their classmates and teachers. It is precisely in the efficient management of this cooperative and collaborative teaching process where the use of Web 2.0 tools is fundamental. True communication, the ultimate purpose of all languages, is at the heart of oral language practice and learning; it also promotes a positive attitude towards new languages, which has an effect on the educational practice itself.

For all these reasons, the attitude variable (variable 1), despite being at the first level in the hierarchy, is also associated with the feeling valued variable (variable 2), a cornerstone in language teaching aimed at adolescent immigrant students, who are not linguistically illiterate, and where the individual factors of each student (self-esteem, personality and motivation) are particularly relevant on the path to building their own personality, switching between the familiar and the unfamiliar, between the first language and the new languages that they must learn to form part of the new society in which they are now living.

Lastly, we can note that, at this second level of the hierarchy, we find the adaptation variable (variable 3) which is represented as a result of feeling valued, i.e., feeling valued is the cause of greater adaptation. At the same time, however, it is also associated with the use of a cooperative methodology that, as we have already pointed out, is promoted by the Web 2.0 tools (variable 5).

This is why we feel that it would be interesting for future research to be based on continuing to analyse in greater depth the existing relationship between school adaptation and the second language teaching-learning process aimed at immigrant students. It would also be fitting to extend this intervention to students in other education centres, cities and provinces, to be able to compare results, and to create new experiences to prepare students for the use of Web 2.0 tools aimed at language learning, to foster channels that can enable second language teaching and learning to be active, communicative and multilingual, through the different resources that the Internet offers.

This article is the result of the Research Project IT 448–10, “Contenidos digitales educativos” [Digital educational material], funded by the Basque Government Department of Education, Universities and Research over the period 2010–2016.
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Interpersonal Conflicts between Children as Difficult Situations in Teaching

Abstract

Interpersonal conflicts arising between children are not only difficult for children themselves, but also for teachers responsible for conducting educational and didactic activities with children. Empirical studies (based on the diagnostic survey method: interviews with children, questionnaires for teachers) conducted among one hundred preschool teachers working with six-year-olds, and among one hundred preschoolers, have revealed that a considerable percentage of the surveyed teachers underestimate the importance of children’s conflict situations in their educational activities. The teachers are mostly unaware of the developmental dimension of conflicts, and they emphasise mainly the negative impact of such situations on children (46%), often punishing their pupils – as claimed by six-year-olds – for becoming engaged in a dispute (48%). The teachers also fail, to a significant extent, to reflect upon incidents of conflict, be it reflection upon the situation in the course of action or reflection upon the action with the benefit of hindsight. Results obtained in the studies demonstrate that the teachers do not show their pupils what a constructive dispute is about, and do not teach them any ways to resolve a conflict situation in an integrative manner – in cooperation with other interaction partners. They also fail to explain the meaning of dialogue in the conflict process to children, despite claiming to do so (81%). The findings may imply that although teachers know which constructive procedures should be used in situations of conflict between children, they do not put their knowledge into practice because, e.g., they are not competent enough to do so.

Keywords: interpersonal conflict, difficult situation, reflective actions of teachers, destructive and constructive meaning of conflicts, strategy of punitive behaviours in conflict, dialogue in conflict situations, culture of conflict.
1. Introduction

The defining features of our times are diversity and variability. Postmodernists argue that the world is designed in an antagonistic fashion: dominated by ambiguity, dissimilarity and multiplicity of discourse – the category of difference. Such differences, they emphasise, should be perpetuated, while conflict should be proposed as a fundamental rule. D. Dana argues that “not to have conflicts means not to live” (D. Dana, 1993, p. 7) because without conflict one loses the autonomy and individuality reflecting the uniqueness of every single individual: their needs, attitudes, systems of values and expectations. This is why contradictions and disagreements are part and parcel of our everyday lives, and an inevitable part of social relationships, too. Interpersonal conflicts, which reflect inherent contradictions and differences between people, affect all age groups. However, special attention should be paid to those which emerge early in life. This is because, as shown by J.S. Turner, D.B. Helms, L.B. Rosenfeld, R.F. Proctor II, R.B. Adler, R. Vasta, M.M. Haith and S.A. Miller, conflicts in adult lives are very similar to the ones experienced in childhood. Accordingly, our early experiences in this respect determine how we handle difficult situations in the future. Therefore, it becomes crucial to develop, as early as in childhood, appropriate skills which make it possible to resolve, in a harmonious way, both our own conflicts and those of other people, thus promoting a proper conflict-solving culture and, as highlighted by K. Mollenhauer, educating for conflicts (B. Śliwerski, 2004, p. 276).

2. Teachers faced with children’s conflicts

A vital aspect of education is being open to development which, as emphasised by L. Witkowski, has always been marked by conflict (L. Witkowski, 1989, p. 133). This is why contemporary teachers and tutors should teach children the difficult art of co-existing with diversity and otherness on a daily basis, embracing differences which form the basis for developing tolerance and respect for arguments and feelings of the other side.

Children’s conflicts are not standard situations in which familiar and well-rehearsed procedures could be applied. It will not suffice to be an expert applying a list of standardized recipes regardless of the situation, since children’s conflict situations are unique and need to be treated individually. In order to cope with such situations in a constructive way, the teacher needs to act reflectively, give proper considerations and analyse both actions and their effects, think about the situation
Interpersonal Conflicts between Children as Difficult Situations in Teaching

from multiple points of view. In other words, conflicts require teachers to reflect on the situation in the course of action and reflect upon their actions afterwards, with the benefit of hindsight.

“Reflection in the course of action is a simultaneous process which comprises an action and concurrent thinking about the action” (H. Kwiatkowska, 2008, p. 69); it represents the “thinking as we go” approach, so to speak. It enables the teacher to modify their behaviour and adjust it to a specific difficult situation which has arisen between children. After the situation has been interpreted, it is possible to intervene in the conflict (e.g. to prevent aggression between children from escalating, initiate an action aimed at reaching a consensus), and then continue the actions which have been undertaken.

In contrast, reflection upon the action with the benefit of hindsight is a “type of consideration given from a temporal perspective to what has already happened” (H. Kwiatkowska, 2008, p. 69). Such reflection does not evolve under the pressure of the unfolding incident, so it can be more thorough, in-depth, and significant for future actions in specific situations, including children’s conflicts discussed in this paper. This type of reflection seems to be particularly essential in the process of searching, together with children, for mutually satisfactory solutions that determine how children are guided through a conflict.

Interpersonal conflicts between children are difficult not only for the latter, but also for their teachers and tutors who are confronted with conflicts in their everyday teaching work. This is why it seemed interesting to identify the extent of teachers’ educational and didactic influence in situations of social discord in the course of interpersonal conflicts in children’s environment. Selected aspects of children’s conflict situation thus attracted the interest of researchers. Empirical studies were conducted, primarily on the basis of the diagnostic survey method, among one hundred preschool teachers and one hundred six-year-old preschoolers. The teachers were surveyed with questionnaires, while the children were interviewed. The studies were carried out in Poznań and in the Wielkopolskie Province in 2010 and 2011.

The empirical studies sought to find answers to the following questions:
• What significance do preschool teachers attribute to children’s interpersonal conflicts?
• How do children, in the teachers’ opinion, respond to conflicts arising between them?
• What is the teacher’s declared way of responding to interpersonal conflicts emerging between children?
Significance of children’s conflicts in the opinion of preschool teachers

Interpersonal conflicts may be both constructive and destructive in nature. H. Białyszewski believes that all conflicts comprise both integration and disintegration, elements which are destructive and those which are beneficial from the perspective of social relationships. There is only the problem of one of the two types dominating a given conflict process (H. Białyszewski, 1983, p. 47).

Nevertheless, conflict situations are most often purported to only exert a negative impact on individuals. The emphasis is on various forms of open confrontation (direct or indirect aggression) or concealed fight (harassment, sabotage, boycott) implicating strong emotional tensions, frustration, anxiety and fear which all have a disadaptive effect on the conduct of individuals and prevent them from acting effectively. Conflict situations which unfold in this way have a negative impact on the individual’s “self”, as they represent a transmission of inappropriate models of conduct in difficult situations.

Conflicts of the type, discussed above, may generate further conflict interactions which, instead of removing existing contradictions, tend to amplify them and thus lead to attitudes marked by hostility and antagonism.

Empirical studies on the significance attributed by preschool teachers to conflicts between children show that 46% of teachers notice mainly the negative impact of conflicts on the child. Opinions submitted by teachers in their questionnaires state, e.g., that “conflicts between children disturb the order, create an unpleasant atmosphere, trigger off aggression”, “all conflicts are bad and they have a negative impact on the child’s development”, “conflicts have negative significance since they trigger off negative emotions [and] have a negative effect on children’s co-existence in a group”, “we should teach how to avoid conflicts since they damage relationships between children and make it impossible to work with other children.”

It should be highlighted at this point that only 25% of the teachers surveyed in the study see any positive effect of conflicts on the child, 22% believe that such situations may produce both positive and negative effects, and 7% of the teachers gave no answer to that question in the questionnaire.

The opinions of the teachers quoted above imply that a considerable percentage of them are not aware of the developmental dimension of children’s interpersonal conflicts, thus failing to see that conflicts are capable of stimulating intellectual, emotional and social skills of six-year-olds. This is because opposition provides an opportunity to be confronted with a point of view that differs from one’s own, to analyse the social situation from the perspective of others and to coordinate various perspectives. This, in turn, contributes to the interpersonal decentralization which determines the development of empathy and engagement in socially-
minded behaviours. It is through conflicts that children also learn how to control their emotions, cope with anger, annoyance, sadness and fear. Conflicts stimulate individuals into looking for contact with the other side, learning real-life strategies for normalising conflict-ridden situations and testing their effectiveness. Consequently, they offer valuable “lessons” of social co-existence in which partners learn how to express their opinions, views, positions and hence also defend them in a way that conforms to the generally applicable moral code. However, above all, the constructive effect of conflicts is associated with the possibility of developing a mutually satisfactory solution together with the interaction partner, achieving a “I win – you win” situation that is needed for boosting one’s self-esteem and triggering nonconformist behaviours.

Summing up this aspect of children’s conflict situations, it should be stressed that a significant percentage of the surveyed preschool teachers fail to see conflicts as an opportunity for children’s dynamic development, and are not aware of the role of conflicts as educational situations. The observed trend, as highlighted by, among others, X.R. Jares, may underlie the prevailing negative perception of such situations in our education system (X.R. Jares, 2001, pp. 128-129).

How six-year-olds see their teachers responding to conflicts between children

The perception of children’s conflicts as destructive by the surveyed teachers corresponds to what six-year-olds said about their teachers’ reactions to conflicts arising between children. They claim that a large proportion of their teachers (up to 48%) use punishment – a strategy of punitive behaviours (“…when the teacher sees a quarrel, she sends [pupils] to the corner, shouts, gives a punishment…”) for engaging in an argument. From what the children said in interviews it follows that it is the teacher who decides – without talking to pupils or establishing any dialogue with them – who and how should to be punished for becoming involved in an argument. This attitude reinforces the children’s belief that rows and arguments are exclusively negative situations, which should not take place and hence must be eliminated by, among other things, punitive behaviours. It should be underlined here that where various forms of punishment are used as the principal method of influencing the child, certain undesirable behaviours may be successfully eliminated, however, at the same time children have no opportunity to embrace those attitudes which are socially desirable and acceptable.

Such an approach of teachers to children’s conflicts represents a technique of conflict de-escalation rather than a method of coping constructively when faced with difficult situations of this type. This is because integrative conflict resolution
should be combined with the strategy whereby the teacher arrives at the solution
together with the children; it should reflect a solution which the children would
accept and fully understand, so that they could imitate it in similar situations.

The process of developing this important competence among preschoolers is
supported by the Peaceful Kids ECSEL programme (S.V. Sandy, K. Cochran, 2005,
pp. 324-327), which stresses that in order to find a way out of conflicts construc-
tively, children need to combine intellectual and practical training that includes
the development of emotional intelligence, skills for effective communication
and collaboration with the partner, and creative intelligence – especially creative
problem-solving strategies.

The reactions of the teachers to children’s conflicts were also analysed in the con-
text of injustice in conflicts. It turned out that as many as 35% of the interviewed
six-year-olds considered the punishment imposed by the teacher to be unfair (“the
teacher sent me to the corner, but she did not see who hit first, who started it…”,
“the teacher told me off, but she never listened to me first”, “the teacher punished
me, but I was only defending myself…”, “the teacher punished me, but it was my
friend who first started calling names”). It needs to be stressed that whenever
children feel the punishment given by their teacher to be unfair, the situation sets
off further conflicts which are likely to escalate. In addition, it gives rise to feelings
of resentment and disappointment. Children are likely to feel hurt and may lose
their confidence in the teacher who, especially in the early years of education, is
a significant person for them.

The literature on the subject proves that children’s perceived injustice is often
a trigger for conflicts. Also, on many occasions there is injustice during a conflict,
or a conflict may arise out of different perceptions of what is fair and what is not
(M. Deutsch, 2005, pp. 41-64). Accordingly, a conflict may arise, e.g., from the unfair
distribution of goods to which certain persons are equally entitled. The author’s
own research shows that possession is the primary motive behind preschoolers’ and
junior schoolchildren’s conflicts with their peers. It reflects the child’s desire to have,
at any given moment, a toy, a prop or another object necessary to play with or to
complete a certain task. The desire is often combined with an agreement between
children (or rather failure to fulfil one) as to the exchange of certain objects or

On the other hand, injustice during a conflict situation is mainly related to
unfair procedures employed in conflict resolution, the use of procedures that are
biased, unfair and ignore the interests of one of the sides. It seems that the above-
mentioned means of resolution of contentious issues among children by their
teachers may be classified as such injustice.
Many conflicts are also, as emphasised by M. Deutsch, about which principle of justice should be applied and how. (In)justice also refers to the procedures employed for measuring merits and credits. For instance, some discuss the standard measures of merit such as tests, grades or professional experience, and consider them to be biased against individuals, while others believe such measures to be appropriate.

**How the teachers declare to respond to children’s conflicts**

What the interviewed six-year-olds said about the actual reactions of their teachers to conflict situations contradicts, to a large extent, what the teachers declared themselves. More specifically, as many as 81% of the teachers declare that they engage in a conversation with children when there is a conflict to resolve. The conversation aims at discussing contentious issues, identifying motives behind the conflict and considering ways in which the parties have behaved as well as listening to the arguments of the partners of such interaction. However, one can hardly imagine that such conversations could be integrated with the strategy of punitive behaviours, which is preferred by the teachers in children’s conflict situations. It is probably a fair assumption that the teachers know which constructive conflict handling procedures ought to be followed, but they fail to put such knowledge into their teaching practice.

It seems that the studies by E. Bochno (2004) can be a valuable aid in exploring this aspect. The scholar investigated conversation as a method of educational influence used by primary education teachers, demonstrating that a considerable percentage of teachers do not know what a conversation is and, in many cases, have a rather popular understanding of the rules of conversation. What is alarming here is that, as demonstrated by Bochno, teachers typically consider themselves to be highly-skilled in conversation. E. Bochno has found that in relations between teachers and children there is more speaking than talking, and the actual conversations are typical of centralised group systems. The finding is consistent with the authoritarian style of teaching preferred by the teachers during classes and a style of communication in which pupils are not treated as partners.

The characteristic attributes of communication taking place between teachers and pupils, as presented by E. Bochno, challenge the essence of conversation and dialogue, which should take into account the needs of each of the interlocutors – allowing both sides to verbalise their own thoughts, views, and positions, thus leading to a mutual acceptance of differences and individuality. It should be emphasised that dialogue is based on the variability of the sender and recipient roles, as well as the need for the subject and content of a conversation to be accepted by those who
take part in it. Therefore, the significance of dialogue in interpersonal relationships, in the context of conflict situations described here, cannot be overestimated. In the humanities, dialogue is considered to be the central concept defining relationships between people. It is pointed out that dialogue should be the primary method of negotiating differences of opinion in disputes, solving difficult situations and reaching a consensus (H. Kwiatkowska, 2008, p. 45) This is why children should, as early as possible, be taught how to master nonverbal and verbal methods of communication, and thus how to hold a conversation, take into account the recipient's point of view, listen to and analyse what the partner has said, modify one's own messages depending on the needs – and also how to initiate and maintain interactions.

3. Conclusion

In the current times dominated by ambiguity and diversity – the category of difference which often implicates the development of conflict processes – it is necessary to be aware of what actually occurs in such processes, of the dynamics and significance of conflicts in the individual's life, and creative ways to cope with them, related to methods of constructive utilization of individual differences (K. Balawajder, 1992; K. Balawajder, 1998). Therefore, present times require the development of a culture of conflict starting from the earliest period in life. The role of teachers in the process cannot be overestimated, however they must possess specific competences combining cognitive foundations of their actions and a practical operational basis for behaviour in difficult teaching situations, as well as using them to activate educational processes.

References:


Ethical Orientations and Sex in Teachers with Varied Educational Strategies

Abstract

The authors present the results of empirical research that tested a hypothesis concerning the relationship between ethical orientations and teachers’ educational strategies. The study was planned as a quantitative strategy as theoretical-verified, in a quasi-experimental scheme with random sampling. Data was gathered with the help of tests, and the hypotheses were verified using two-way ANOVA.

Keywords: educational strategies, ethical orientations: justice and care, sex, teachers

Hypothesis

The analysis of educational practices carried out in schools provokes serious questions more often than contributing knowledge about the effective practices of teachers. The latter aspect hinges on the interaction of so many factors that potential clarifications cannot make any claim to universality. We should rather formulate them in concrete theoretical perspectives through which we can analyze and interpret educational practices, or otherwise extract their pedagogical and ethical contexts. Firstly, these will be theories of moral development based on two types of ethic: justice and care. Such a conceptualization will allow us to diagnose two ethical orientations in educational practices. Secondly, we will want to see in what way these ethical orientations modify teachers’ practices, which will be described using the dimensions of heteronomy - autonomy. Planned in this way, the study is simultaneously an attempt to empirically verify the concept of educational
strategies using Kohlberg and Gilligan’s theories of moral development, which are well established in the social sciences. The analysis of these three concepts will allow us to formulate the hypothesis presented in this study.

An educational strategy is conceptualized as an informed plan of action made present in the decisional-executive processes of the teacher. The ideational and operational aspects of strategies concern many facets of educational work. This is why we can speak of strategies that refer to different educational disciplines. For analytical purposes we have isolated four types of strategy: reinforcement strategies, development strategies, adaptation strategies, and ideological strategies. Reinforcement strategies serve to stimulate and uphold the motivational processes responsible for the manifestation of the desired, and the extinguishing of the undesired, actions of male and female pupils. These strategies map out two polarized extremities: collective and individualistic, which are derivatives of the teacher’s understanding of effective means for occasioning desired changes in behavior. The left end of the measure – collective – symbolizes an individual pupil’s perception as but one element of a larger whole that makes up the school class/group. As the oppositional term to collectivism – the individualistic reinforcement strategy is based on the recognition that the condition of effective educational influence takes into account individual differences. The development strategy is operationalized as teaching concepts and actions, which lead to the pupil’s attaining standards of behavior characterized by a higher level of quality than the standards noted at the starting point. This strategy locates itself on the dimension: conformist – self-driven. The conformist strategy relies on the adaptive model of development, while the self-drive strategy is based on the emancipation of the development model.

Adaptation strategies consist of concepts and actions which allow the teacher to control pupils’ observance of social norms, as well as restore balance to the educational process. They designate two opposing ends of a scope: outer-directedness and inner-directedness.

Outer-directed strategies imply teachers’ taking on an authoritative role as authors of and watchmen over the social order. The opposite is the case with regards to the use of inner-directed adaptation strategies. Here, teachers expect from pupils that they rely on their own judgments and independent decision-making. By ideological strategies we understand such concepts and actions that allow teachers to tie their own orientations regarding all elements of the educational process (goals, methods, content, relationship with pupils) to general political, world-view, and ethical orientations (cf., Chomczyńska-Rubacha, Rubacha 2007, p. 46). This definition of ideological strategies points to the cultural basis for ideologies and their interaction with individual professional experiences. We are describing these
strategies on the spectrum conservatism -liberalism, basing our assessment on W.F. O’Neill’s (1981) typology of educational ideologies. The conservative ideological strategy is based on respect for the past and tradition, a reserved attitude toward change and acceptance of the extant social order. The liberal educational ideology, in turn, refers to democratic values, is open to the future, orientated towards the pupil’s individualization and creativity, and also the transcendence of the cultural status quo.

In the literature on the subject, ethical orientations are treated as variables, whose indices are disclosed in studies in the way of solving moral dilemmas. These dilemmas form the content of tests which are based on L. Kohlberg’s theory of moral development, diagnosing affective and cognitive dimensions of moral decision-making. Similarly, the ‘Moral Judgment Test’, as the ‘Moral judgment Interview’ or ‘Defining Issues Test’ were received with criticism from many authors, among which is the criticism of C. Gilligan (1979, 2003). Gilligan has pointed out that the content of dilemmas found in these tests decidedly favors solutions based on the ethic of justice, which, moreover, is consistent with the “ethical profile” presented in Kohlberg’s theory (1984). The ethic of justice, however, is not the only ethic regulating ways of solving moral dilemmas, though it is nearly universal among men. Women, on the other hand, prefer an ethic of care and responsibility, concentrated on dialectical thinking. While solving dilemmas, they focus on responsibility for others and maintaining good interpersonal relationships, because they feel that the essence of the dilemma lies in a conflict of responsibility and not, as typical of the ethic of justice, in a conflict of law and principle. In contrast, men base their moral decisions on formal thinking, treating the dilemma in question as an abstract game with a limited set of solutions. Gilligan defines the ethic of care and responsibility as an expression of the female ‘concept of self’, which organizes actions in the realm of morality in the way different from the male ‘concept of self’ (Gilligan 2003, pp. 5–20 and 2013, p. 147). Therefore, what we have here is a contradistinction between a morality regulated by the principle of justice and, on the other hand, a morality regulated by the principle of responsibility. If women score lower than men on Kohlberg’s tests, it is precisely because of the favored content of the dilemmas contained in them, and not because of inferior moral competency and capability. We can also tie moral education or the ethical conceptualization of education with Gilligan’s feminist criticism (1998, pp. 130–135). One of the more advanced theoreticians and practitioners of moral education is the German psychologist G. Lind, who – as Brugman writes – emphasizes the necessity of developing competencies for adopting the views of others engaged in moral situations, and deliberating over those situations from their argumentative
standpoint. What is crucial, then, is the ability of appreciating and understanding counter arguments. Out of the three above-mentioned moral judgment tests, only MJT yields to such decentralization (2003, p. 195). We should notice that Gilligan's ethic of care and responsibility is more attuned than the ethic of justice, whose aim is a simple way to objectively settle the conflict, to Lind's expectations. It is not certain, however, whether Gilligan's position, which ascribes to sex the power of differentiation adopted by the studied moral orientations (justice vs. care), can withstand empirical verification. For instance, intercultural research in Norway and Brazil shows that the effect of cultural specificity is stronger than the effect of gender (Vikan, Camino, Biaggio 2005, pp. 107–111). There are also studies which do not reveal the effect of gender, but rather an effect for dilemma type. In studies conducted by S. Haviv and P.J. Leman (2002, pp. 129–130) three types of dilemma: pro-social, antisocial, and impersonal, were introduced as grouping variables for the orientation of justice and care. Each type of dilemma attracted, with different strength, each ethical orientation. Pro-social dilemmas strongly occasioned orientations toward care, antisocial dilemmas occasioned orientations toward justice, while impersonal-anonymous dilemmas had a tendency to occasion results locating subjects between both orientations. As with analogous results, these findings point out the effects of dilemma types (Jujarvi, Myyry, Pesso 2009, pp. 483–489) and confirm Gilligan's concerns that Kohlbergian tests, presenting a specific type of dilemma, attract solutions based on justice. They do not, however, strengthen the thesis that gender determines moral orientation. Nonetheless, the presence of two ethical orientations in solving moral dilemmas is a fact, which shows that competencies and predispositions lying behind them project onto the behavior of people in situations engaging interpersonal relations, including, in particular, educational situations to which the earlier cited Lind turns. Because the theories and studies discussed above concern ethical orientations that are well grounded in scientific literature and were repeatedly empirically verified, they also form an interesting space for the problematization of educational practices. And this is especially the case when we consider them from the perspective of educational strategies. We could suppose that a portion of their variance is accounted for by teachers' ethical orientations, and, perhaps linked to this, their gender in addition. Having planned research which was geared toward verification and guided by the earlier analyzed theoretical premises, we anticipate that orientations toward care and responsibility will be more accountable for autonomous strategies than orientations toward justice. Not expecting the presence of the effect of gender, we do not believe that an effect for interaction with the ethical orientation will appear. Beyond the verification context of our research, the distribution of teachers in
terms of ethical orientation, which in local studies has not yet been analyzed, seems to be a particularly interesting issue.

**Method**

Data was collected with the use of two standardized tests developed by the authors. The first of them, the Test of Ethical Orientations (Test Orientacji Etycznych) (TOE), consists of five stories of ethical conflict situations in which their protagonists are engaged. The subjects have the choice of several solutions consisting of indicators of the ethic of care and justice as a criterion for decision-making. The situations are constructed in such a way that the subject’s decisions decide about the fate of the protagonists. The stories are not abstract in themselves, as for instance in Rest’s Defining Issues Test (DIT), but typical of the professional experience of the private individuals studied. Their content was verified in terms of the likelihood that they would appear in teachers’ everyday lives. This tool is not entirely verified, although a portion of the psychometric parameters has already been developed. The indicators of discriminatory power (four-point scale) were calculated for each story and ranged between 0.57 and 0.81, and they differentiate the standardization sample (N=370) quite well. The reliability of the entry is also satisfactory, as it oscillates between 0.82–0.93 (Cronbach’s Alpha). Unfortunately, we can say the least about the theoretical accuracy, which until now has been assessed with the help of competent judges, with the result of satisfactory indicators. However, this is the weakest of the possible criteria for assessing the parameter of the test. For the purposes of the presented study we also tentatively set the empirical range of the results which evidenced the presence of the orientation toward care and justice in the solutions generated by the respondents.

The measurement of the random variable was made using the Educational Strategies (Strategie Wychowawcze) Test, developed by the authors. This is a tool which is normalized and fully standardized, with well-known indicators of discriminatory power, reliability, and validity. It allows us to diagnose reinforcement, developmental, adaptation and ideological strategies on the heteronomy-autonomy spectrum. Subjects respond on a four-point scale to the stories describing typical, everyday, educational class situations, constructing their own acts of intervention.

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The empirical research was carried out on a random sample of teachers from the Kujawsko – Pomorskie region (N=282), which reflects the demographic structure of Poland. Both tools made measurements on the interval level. The data was analyzed using the two-way analysis of variance (ANOVA), along with its main interaction and simple effects.

**Analysis and Interpretation of Results**

Judging by the estimators, one can conclude that deviations from the normal distributions are not significant. The standard deviations, however, give credibility to the averages, which do not seem to be highly fragmented internally. The analyzed measures show a small advantage for autonomous strategies, except for the advantage of the development strategies and the advantage of the orientation toward justice. This latter result is particularly interesting, because it places the teachers studied in a group which reveals a tendency toward being more directed by rules, legal and school standards, than by concern for the quality of interpersonal relationships with pupils. This could mean that school life, in terms of the ethical, categorical distinctions Gilligan makes, is created by teachers in accordance with male, and not female, rationality. And this creates a certain problem for interpretation, since in previous studies primary school was seen as feminine, geared more toward care for interpersonal relationships, whereas lower secondary school, especially high school, had a decidedly strong focus on academic success and competition.

**Table 1.** Descriptive statistics of model variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforcement s.</td>
<td>1–4</td>
<td>2.17</td>
<td>1.02</td>
<td>0.56</td>
</tr>
<tr>
<td>Adaptation s.</td>
<td>1–4</td>
<td>2.75</td>
<td>0.85</td>
<td>-0.2</td>
</tr>
<tr>
<td>Development s.</td>
<td>1–4</td>
<td>1.93</td>
<td>0.99</td>
<td>0.89</td>
</tr>
<tr>
<td>Ideological s.</td>
<td>1–4</td>
<td>2.81</td>
<td>1.11</td>
<td>-0.36</td>
</tr>
<tr>
<td>General s.</td>
<td>1–4</td>
<td>2.24</td>
<td>0.56</td>
<td>0.07</td>
</tr>
<tr>
<td>Ethical orientation</td>
<td>1–2</td>
<td>1.44</td>
<td>0.49</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Source: own analysis – SPSS 20

However, our study sample was proportionally divided into three levels of education (primary, secondary, and upper-secondary), which means that a portion of the variance in ethical orientation is also explained by the results from the
teachers of primary school. This signifies a tendency toward the justice, and not care, ethic. Less surprising are the results regarding educational strategies, which quite systematically place themselves a bit higher than heteronomy, which, however, is not a decisive trend. Can we explain this by the difficulties arising from the freedom of autonomy in pupils who place high demands on teachers and test their openness and their tendency to negotiate the shape of the reality of the classroom with their pupils? Perhaps this is a probable hypothesis, especially if we consider that development strategies, which interpret autonomy as self-directed, break from the described tendency. The second issue related to the tendency toward justice orientation is the part played by women in the studied sample, which – if we think in the categories Gilligan presents – should weaken it. We will return to this issue, however, in the analysis of mean squares.

Table 2. Main and interaction effects of two-way ANOVA: sex x strategies; ethical orientations x strategies; sex x ethical orientations x strategies

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted Model</td>
<td>GS</td>
<td>3</td>
<td>8.616</td>
<td>38.441</td>
<td>.000</td>
<td>.293</td>
</tr>
<tr>
<td></td>
<td>RS</td>
<td>3</td>
<td>15.631</td>
<td>17.365</td>
<td>.000</td>
<td>.158</td>
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<tr>
<td></td>
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<td>9.379</td>
<td>14.816</td>
<td>.000</td>
<td>.138</td>
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<tr>
<td></td>
<td>DS</td>
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<td>10.152</td>
<td>11.495</td>
<td>.000</td>
<td>.110</td>
</tr>
<tr>
<td></td>
<td>SI</td>
<td>3</td>
<td>30.695</td>
<td>32.873</td>
<td>.000</td>
<td>.262</td>
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<tr>
<td>Constant</td>
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<td>820.340</td>
<td>3659.987</td>
<td>.000</td>
<td>.929</td>
</tr>
<tr>
<td></td>
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Table 2 shows that every two-way ANOVA effect is statistically significant, which is to say, the ethical orientation, sex, as well as the interaction between them, alike. This state, however, does not confirm the direction of the analyzed dependency as our hypothesis foresaw. It is an orientation toward justice, rather than care, which explains the variance of all the educational strategies, i.e., links with the autonomous version. This is not too strong an effect, because the mean values for strategies, despite being from the autonomous pool, are in fact low. Notwithstanding, this weak tendency points to the fact that the teachers studied are passing into the direction of autonomous strategies, solving daily classroom dilemmas on the basis of the instrumentation of justice ethics. Perhaps, being based on clear criteria, it discloses itself more unequivocally than the orientation toward care, which is strongly contextualized. Operating with abstract criteria possibly agreed upon earlier with their pupils, probably gives the teachers a feeling of security, which to them seems necessary when moving within, or on the boundary of, autonomous strategies. If, for instance, teachers use development strategies based more on the self-direction of pupils, rather than on conformism, then by not contextualizing conflicts (orientation toward care) they use readily established rules which direct their solutions in similar ways. And this gives them the feeling of stability and security, also protecting their own personal resources, which – as other studies have shown – are vulnerable to bearing psychic costs and a heavy load when teachers act heuristically and give pupils autonomy (Rubacha, 2000). Furthermore, the requirements of the teachers’ roles are inherently contradictory. On the one hand, one expects from them that they will appreciate and accentuate in their own actions the individuality of pupils,
and on the other hand, that they will assess all pupils fairly. Furthermore, the context of performance assessment, which takes place in class, and thus publicly, carries with it the need to use more uniform rules for all pupils and not varied forms of care for each individual. It seems that the requirements of the professional role may participate as criteria for teachers to build their own ethical orientation, and these criteria may involve the ethic of justice, which our results also show.

From the point of view of our hypothesis, what is also interesting is the interaction effect of sex and ethical orientation with respect to each of the educational strategies. Given the theoretical premises we did not expect this effect. What does its presence in the results signify? We should take into account the mean squares for the development strategy. Now, in the group of people that reveal an orientation toward care the means are not differentiated due to sex; however, they are in the studied group orientated toward justice. A higher average for reinforcement strategy appears in the group of women. In the case of adaptation strategies, the men achieved a higher mean in the group of teachers orientated toward care, while in the group orientated toward justice – the women had the advantage. This same situation was noted in relation to the ideological strategy. In the case of development strategies, there are no differences between the women and men in the ‘care group’; although, there is a difference in the ‘justice group’, with the women having the advantage. Treating strategies globally (average of all strategies), i.e., on the spectrum of heteronomy – autonomy, we obtain a higher average for the men in the group orientated toward care, and a higher average for the women in the group orientated toward justice. Thus, we can accept with some reserve that the women who attain autonomous strategies rely more on the ethic of justice, while the men rely more on the ethic of care. This is a rather interesting result, which paradoxically does not positively verify our hypothesis, yet at the same time, does not support Gilligan’s theory, even if it shows the interaction between sex and ethical orientation. This signifies, rather, that ethical orientations remain relatively independent from sex in the sense given to this relation by Gilligan. Against the background of the mean squares, it is also easier to understand the advantage the orientation toward justice has with the dominance of the women in the studied sample. Now, the mistake was assuming that if the women made up a part of the group, then assuredly they would strengthen the variance of the orientation toward care. That did not happen. However, if Gilligan is right in insisting on the ‘femininity’ of the ethic of care, and if our interpretation, which posits the teachers’ supportive use of the ethic of justice, was accurate, one could conjecture that we should perceive the studied female subjects more as teachers and less as women, and perhaps simply more as human beings, which is something Gilligan also wrote about (2013, p.147).
Reference


Principal Instructional Leadership and Teaching for Learner Autonomy: A Multilevel Analysis of the Case of South Korea *

Abstract

This study aims to explore how teachers’ use of instructional strategies to foster learner autonomy varies depending on principal instructional leadership. Based on a nationally representative sample of approximately 2,200 teachers in 131 middle schools in South Korea, a series of hierarchical generalized linear modeling analyses has been conducted. The main findings from this study lend credence to the idea that teachers whose school principals provide greater instructional leadership are significantly more likely to integrate instructional strategies to advance learner autonomy into their classroom teaching. This result appears very robust even after a range of variables pertaining to school and teacher characteristics is simultaneously taken into account.

Introduction

This study examines how principal instructional leadership is associated with teachers’ effort to use instructional strategies to advance student autonomy in learning. Although there has been extensive evidence pointing to the beneficial effects of teachers’ autonomy-supportive behaviors on students’ academic competence, engagement, and achievement (Assor, Kaplan, & Roth, 2010; Black & Deci, 2000; Reeve, Jang, Carrell, Jeon, & Barch, 2004), little systematic effort has been made to understand what types of teachers, under what contextual conditions, use instructional strategies that are conducive to learner autonomy. As a first step toward systematic investigation in this direction, this study empirically explores...
how teachers’ use of instructional strategies to foster learner autonomy varies depending on principal instructional leadership, one of the decisive factors known to exert a substantial influence on teachers’ instructional practices.

In particular, this study examines teaching for learner autonomy in South Korea, where educational discourse has recently witnessed an increasingly problematic situation where students are usually viewed as passive recipients of a standardized package of information and knowledge for tests, rather than as active agents of learning and creative producers of useful knowledge and skills who are well prepared to be responsible and competent global citizens and leaders. Although the context of this study is confined to the case of South Korea, we believe the current context of educational reform in South Korea epitomizes a range of educational reform ideas and policies present in many countries that commonly highlight the importance of helping individual students become autonomous learners who are capable of not only wisely consuming, but also creatively producing knowledge and skills.

**Conceptual Framework**

A lot of educational literature highlights that individual students’ distinctiveness and uniqueness must be paid special attention to, so that they can experience greater engagement in and take fuller responsibility for their own learning. Specifically, autonomy-supportive teachers are known for “creating opportunities for students to work in their own way, [encouraging them] to talk [in class, and] arrange learning materials and seating patterns so students manipulate objects and conversations rather than passively watch and listen” (Reeve, 2006, p. 231). Depending on the instructional strategies used by teachers, the extent to which students believe they are entitled to become active and reflective individuals capable of autonomous learning may vary significantly (Daniels & Perry, 2003; Nucci, Killen, & Smetana, 1996)

Despite the widely acknowledged beneficial effects of autonomy-supportive teaching, teachers may well prefer conventional teaching as they choose to avoid the uncertainties that could emerge from students’ unexpected reactions in classrooms and the subsequent risk of not meeting achievement expectations set out by externally defined curriculum standards (Kennedy, 2005; Thomas, 1992). That is, teachers may not be motivated enough to expose themselves to increased “instructional uncertainty” (Cha & Ham, 2012), given that they can safely ensure
a certain basic level of student achievement by simply conforming to conventional teaching practices; in addition, as teachers put greater effort into using instructional strategies to advance learner autonomy, the practice of teaching becomes inevitably less reducible to predictable routines, thereby exposing teachers to a greater extent to the nature of “teaching as an improvisational activity … [that requires] moment-to-moment responsiveness” (Heaton, 2000, pp. 60–63) in interacting with individual students.

We posit that such instructional uncertainty arising from promoting learner autonomy can be more successfully managed, rather than simply avoided, if a teacher works in a school where the principal provides effective instructional leadership. School principals who are instructional leaders are keen to provide teachers with opportunities to reflect upon and improve their teaching (Blase & Blase, 1999; DiPaola & Hoy, 2007); they serve as facilitators of teacher growth, promoting and sustaining a school climate for continuous learning by keeping teachers well informed about possibilities for getting new insights into their teaching practices (Murphy, 1990; Supovitz & Poglinco, 2001). This type of principal behavior has been documented to help teachers consider alternative frameworks for understanding teaching, thereby helping teachers face, rather than avoid, instructional uncertainty that arises from their efforts to improve their teaching (Reitzug, 1994; Sergiovanni & Starratt, 2002). In this regard, the following hypothesis is examined in this study: teachers who work in a school where the principal demonstrates a higher level of instructional leadership are more likely to incorporate autonomy-supportive teaching into their instructional practice.

**Data and Methodology**

The data used in this study come from the OECD Teaching and Learning International Survey (TALIS) 2008. This survey dataset is the first large-scale compilation of data concerning teachers’ work life in schools in many countries. The teachers selected for TALIS 2008 were a nationally representative sample of lower secondary teachers within each country (OECD, 2010). Because this study concerns teachers’ use of instructional strategies for student autonomy in learning as the dependent variable, the teacher is the primary unit of analysis. In terms of hierarchical generalized linear modeling (Raudenbush & Bryk, 2002), teacher-level data constitute level-1 variables. With these teachers nested within their schools
in terms of the data structure, the school is the level-2 unit of analysis. Data for approximately 2,200 teachers in 131 middle schools in South Korea for which all data were available with respect to the variables of interest were analyzed in this study.

With respect to measures of teaching for learner autonomy (TCHAUTO) as dependent variables, the following teacher behaviors that involve instructional strategies for fostering student autonomy in learning were used in this study: the TALIS 2008 survey asked teachers how often their students were encouraged to “suggest or to help plan classroom activities or topics” (TCHAUTO_I), “work in small groups to come up with a joint solution to a problem or task” (TCHAUTO_II), “work on projects that require at least one week to complete” (TCHAUTO_III), and “evaluate and reflect upon their own work” (TCHAUTO_IV). These teacher behaviors, while not exhaustive, provide some illustrative examples of teachers’ use of the type of instructional strategies that help students become autonomous learners who are empowered to make important decisions on their own learning and reflectively monitor their own progress while actively engaging in collaborative and sustained inquiry and discovery (Little, 1994; Reeve, 2006). All these variables are ordinal-scale categorical variables. The breakdown of these variables, after appropriate weighting was applied to the data, is presented in Figure 1.

**Figure 1:** Frequencies of teachers’ use of teaching for learner autonomy, the case of middle schools in South Korea, by instructional strategy

- Students suggest class activities or topics
- Students work in groups for joint solutions
- Students work on long-term projects
- Students reflectively evaluate their own work

- Never or hardly ever
- In about a quarter of lessons
- In about a half of lessons or more
With respect to the primary independent variables, the following variables were used to test the hypothesis for this study:

*Principal instructional leadership, principals’ self-report* (INSTL_PR): A school-level continuous variable that measures principals’ self-assessment of their own instructional leadership behaviors. This variable was constructed based on the frequencies of the following behaviors as reported by individual principals: “I give teachers suggestions as to how they can improve their teaching” and “I inform teachers about possibilities for updating their knowledge and skills.” This variable theoretically ranges from one (= the principal reports that she/he “never” engages in these behaviors) to four (= the principal reports that she/he “very often” engages in these behaviors).

*Principal instructional leadership, teachers’ collective perception* (INSTL_TE): A school-level continuous variable that captures the degree to which teachers in a school collectively perceive their principal as an instructional leader. To construct this variable, the teacher-level data were aggregated at the school level and then linked to the principal data. Specifically, teachers’ perceptions of how frequently the following activities took place in their school were used to create the variable: “The principal gives teachers suggestions as to how they can improve their teaching” and “The principal ensures that teachers are informed about possibilities for updating their knowledge and skills.” This variable theoretically ranges from one (= all teachers agree that these activities “never” happen at this school) to four (= all teachers agree that these activities happen “very often” at this school).

To determine whether the hypothesis examined in this study is empirically supported even after some other possibilities are simultaneously taken into account, the following variables were also considered at level 1: *Advanced degree* (DEGREE): A dichotomous variable indicating whether a teacher has a graduate degree (coded one) or not (coded zero). *Scholarly activity* (SCHOLAR): A dichotomous variable indicating whether a teacher participates in scholarly activities or not. If a teacher not only conducted individual or collaborative research on a topic of interest to her/him professionally but also attended educational research conferences during the previous one and a half years, the teacher was considered as engaging in scholarly activities (coded one; otherwise, zero). *Teaching load* (TCHLOAD): The number of hours a teacher spent teaching students in a typical school week (divided by 10 to make 10 hours a unit). *Administrative workload* (ADMINIS): The number of hours a teacher spent completing administrative duties in a typical school week (divided by 10 to make 10 hours a unit). *Teacher experience* (EXPERNC): The length of a teacher’s experience as a school teacher. This variable ranges from one (= less than one year) to seven (= more than 20 years).
In addition to these level-1 control variables, the following variables were also controlled at level 2 because they might shape important parts of the contextual contour of classroom teaching: Student–teacher ratio (STURATIO): The ratio of students to teachers in a school (divided by 10 to make 10 students per teacher a unit), which is a school-level continuous variable that should be strongly negatively correlated with class size. Student performance (PERFORM): A school-level continuous variable reflecting the level of students’ academic performance in a school. To construct this variable, the data on individual teachers’ perceptions of “the ability of students” in their schools “compared to other students in the same grade/year level” were aggregated at the school level. This variable theoretically ranges from one (= all teachers in a school describe the ability of their students as “much lower than average ability”) to five (= all teachers in a school describe the ability of their students as “much higher than average ability”). Private school (PRIVATE): A dichotomous variable indicating whether a school is a private school (coded one) or not (coded zero). The descriptive statistics for all these level-1 and level-2 independent variables used for this study are presented in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Unweighted description for independent variables</th>
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<td>Student performance (PERFORM)</td>
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<td>Private school (PRIVATE)</td>
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Multilevel ordinal logistic regression, which is a form of hierarchical generalized linear modeling, was used in this study, as suggested by O’Connell et.al., (2008) and Raudenbush and Bryk (2002). Specifically, for teacher $i$ in school $j$:

$$P(R_{ij} = 1) = \text{Prob}(\text{TCHAUTO}_{ij} = \text{“In about a half of lessons or more”})$$,
\[ P(Rij = 2) = \text{Prob}(\text{TCHAUTOij} = \text{“In about a quarter of lessons”}), \]
\[ P(Rij = 3) = \text{Prob}(\text{TCHAUTOij} = \text{“Never or hardly ever”}), \]
and:
\[ P(Rij \leq m) = P(Rij = 1) + \ldots + P(Rij = m). \]
Then, the level-1 model is specified as
\[
\eta(m)ij = \ln\left\{ \frac{P(Rij \leq m)}{1 - P(Rij \leq m)} \right\} = \beta_0j + \beta_1j(D\text{EGREE}ij) + \beta_2j(S\text{CHOLAR}ij) + \beta_3j(T\text{CHLOAD}ij)
+ \beta_4j(A\text{DMINIS}ij) + \beta_5j(E\text{XPERNC}ij) + D(2)ij\delta(2),
\]
where \( \beta_0j \) is the intercept, and \( \beta pj \) for \( 1 \leq p \leq 5 \) is the slope for each level-1 variable. \( D(2)ij \) is a dummy variable indicating whether \( m = 2 \) (then, \( D(2)ij = 1 \)) or not (i.e., if \( m = 1, D(2)ij = 0 \)), and \( \delta(2) \) is the threshold difference, which equals \( \eta(2)ij - \eta(2)ij \).

At level 2, the intercept and the slopes are specified as follows:
\[
\beta_0j = \gamma_00 + \gamma_01(IN\text{STL}_ PR)j + \gamma_02(IN\text{STL}_ TE)j + \gamma_03(STURATIO)j
+ \gamma_04(PERFORM)j + \gamma_05(PRIVATE)j + u0j, \text{ and}
\beta pj = \gamma p0 \text{ for } 1 \leq p \leq 5,
\]
where \( \gamma_00 \) is a constant, and \( \gamma_0b \) for \( 1 \leq q \leq 5 \) is the slope for each level-2 variable. A random error, \( u0j \), is added to the intercept in light of the possibility of random variance due to some factors that are unique to individual schools, while the slopes are treated as fixed.

In addition to this statistical model, two variations on the model were also examined: the model with the control variables removed and the model with the subject area variable added. In all our multilevel ordinal logistic regression analyses, all level-1 and level-2 independent variables were grand-mean-centered. Appropriate sampling weights designed to be used for multilevel modeling analyses were applied to the dataset to produce more accurate estimates at the national level (OECD, 2010).

**Results**

Table 2 presents the results of our hierarchical generalized linear modeling analyses of the teachers’ use of instructional strategies to foster learner autonomy. A very clear pattern emerges: in all models presented in Table 2, the principal’s instructional leadership as collectively perceived by the teachers is significantly positively associated with all four instructional strategies for promoting learner autonomy examined in this study. This significant association appears to persist even when a range of other variables are simultaneously taken into account. This
result strongly supports this study’s hypothesis that teachers who work in a school where the school principal effectively demonstrates greater instructional leadership are more likely to integrate elements of teaching for learner autonomy into their classroom instructional practice.

For instance, with respect to the teachers’ efforts to encourage students to work on long-term projects (model III-b), the ordered log-odds estimate for the effect

<table>
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<th>Coeff. (SE)</th>
<th>Coeff. (SE)</th>
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<tr>
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<td>.058 (.081)</td>
<td>.044 (.082)</td>
</tr>
<tr>
<td>INSTL_TE, γ₀₂</td>
<td>.659 (.171)</td>
<td>***</td>
<td>.521 (.182)</td>
</tr>
<tr>
<td>STURATIO, γ₀₃</td>
<td>.016 (.101)</td>
<td>.034 (.103)</td>
<td></td>
</tr>
<tr>
<td>PERFORM, γ₀₄</td>
<td>-.025 (.127)</td>
<td>.004 (.127)</td>
<td></td>
</tr>
<tr>
<td>PRIVATE, γ₀₅</td>
<td>.446 (.124)</td>
<td>***</td>
<td>.430 (.130)</td>
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<tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>DEGREE, γ₁₀</td>
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<td>.217 (.118)</td>
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<tr>
<td>SCHOLAR, γ₂₀</td>
<td>.642 (.092)</td>
<td>***</td>
<td>.602 (.097)</td>
</tr>
<tr>
<td>TCHLOAD, γ₃₀</td>
<td>-.003 (.102)</td>
<td>.015 (.098)</td>
<td></td>
</tr>
<tr>
<td>ADMINIS, γ₄₀</td>
<td>.146 (.068)</td>
<td>*</td>
<td>.156 (.072)</td>
</tr>
<tr>
<td>EXPERNC, γ₅₀</td>
<td>-.054 (.032)</td>
<td>-.055 (.031)</td>
<td></td>
</tr>
</tbody>
</table>

Subjects (ref. = math)
- Language arts, γ₆₀
  - .296 (.181)
- Science, γ₇₀
  - .447 (.198) *
- Social studies, γ₈₀
  - .279 (.179)
- Foreign language, γ₉₀
  - .112 (.196)
- Art, γ₁₀₀
  - .507 (.217)
- Others, γ₁₁₀
  - .265 (.157) *

Threshold diff., δ(2)
- 2.193 (.081) ***
- 2.273 (.084) ***
- 2.316 (.082) ***

Level-2 df
- 128
- 125
- 125

Level-1 df
- 2,206
- 2,101
- 2,095

Random effect
- Intercept, u₀j
  - .00 130.36
  - .00 122.19
  - .00 125.68

Note. Coeff. = Unstandardized ordered logit coefficients with robust standard errors in parentheses. Var. = Variance component. For the chi-square tests for random effects, the degrees of freedom are equal to level-2 df’s reported in the table. All independent variables are grand-mean-centered.

*p ≤ .05;   **p ≤ .01;    ***p ≤ .001.
of the principal’s instructional leadership as collectively perceived by the teachers is 0.483, which translates into \( \exp (0.483) = 1.621 \) in terms of the odds ratio, i.e., for a one-unit increase in the teachers’ collective perception of the principal’s instructional leadership, we can expect to see a 62.1\% (= \((1.621 - 1) \times 100\)) increase in the odds of moving to the next higher level in the teachers’ encouragement of students working on long-term projects, after all other things in the model are taken into account. The magnitude of the effect of the same principal instructional leadership variable increases further when the dependent variable becomes one of the other instructional strategies examined, i.e., encouraging students to suggest
class activities or topics (model I-b), to work in groups for joint solutions (model II-b), or to reflectively evaluate their own work (model IV-b).

In contrast to the strong effect of the teachers’ collective perception of the principal’s instructional leadership on the teachers’ use of instructional strategies to foster learner autonomy, the effect of the same leadership behavior as reported by the principals themselves appears to be unrelated to the teachers’ classroom teaching with respect to any of the four autonomy-supportive instructional strategies examined in this study. One way to interpret these contrasting results is that the principal’s instructional leadership behavior as collectively perceived by the teach-

<table>
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<th>Coeff. (SE)</th>
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<td>-1.357 (.064) ***</td>
<td>-1.414 (.065) ***</td>
</tr>
<tr>
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<tr>
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<td>-.106 (.078)</td>
<td>-.111 (.088)</td>
</tr>
<tr>
<td>INSTL_TE, $\gamma_{02}$</td>
<td>.626 (.159) ***</td>
<td>.483 (.156) **</td>
<td>.500 (.169) **</td>
</tr>
<tr>
<td>STURATIO, $\gamma_{03}$</td>
<td>-.099 (.098)</td>
<td>-.129 (.106)</td>
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<td>PERFORM, $\gamma_{04}$</td>
<td>.020 (.118)</td>
<td>.062 (.118)</td>
<td></td>
</tr>
<tr>
<td>PRIVATE, $\gamma_{05}$</td>
<td>.174 (.126)</td>
<td>.142 (.146)</td>
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</tr>
<tr>
<td>Level 1:</td>
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<td>DEGREE, $\gamma_{10}$</td>
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<td>.104 (.102)</td>
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<tr>
<td>SCHOLAR, $\gamma_{20}$</td>
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<td>.657 (.116) ***</td>
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<tr>
<td>ADMINIS, $\gamma_{40}$</td>
<td>.097 (.075)</td>
<td>.108 (.077)</td>
<td></td>
</tr>
<tr>
<td>EXPERNC, $\gamma_{50}$</td>
<td>-.070 (.033) *</td>
<td>-.088 (.034) **</td>
<td></td>
</tr>
<tr>
<td>Subjects (ref. = math)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language arts, $\gamma_{60}$</td>
<td></td>
<td></td>
<td>.203 (.174)</td>
</tr>
<tr>
<td>Science, $\gamma_{70}$</td>
<td></td>
<td></td>
<td>-.414 (.192) *</td>
</tr>
<tr>
<td>Social studies, $\gamma_{80}$</td>
<td></td>
<td></td>
<td>.190 (.207)</td>
</tr>
<tr>
<td>Foreign language, $\gamma_{90}$</td>
<td></td>
<td></td>
<td>-.237 (.194)</td>
</tr>
<tr>
<td>Art, $\gamma_{100}$</td>
<td></td>
<td></td>
<td>1.357 (.194) ***</td>
</tr>
<tr>
<td>Others, $\gamma_{110}$</td>
<td></td>
<td></td>
<td>.766 (.199) ***</td>
</tr>
<tr>
<td>Threshold diff., $\delta_{(2)}$</td>
<td>1.652 (.073) ***</td>
<td>1.715 (.077) ***</td>
<td>1.812 (.081) ***</td>
</tr>
<tr>
<td>Level-2 df</td>
<td>128</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>Level-1 df</td>
<td>2,191</td>
<td>2,088</td>
<td>2,082</td>
</tr>
</tbody>
</table>

Random effect | Var. $\chi^2$ | Var. $\chi^2$ | Var. $\chi^2$
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept, $u_{0j}$</td>
<td>.00 119.37</td>
<td>.00 114.2</td>
<td>.00 128.4</td>
</tr>
</tbody>
</table>
ers in a given school may provide more reliable information than the principal's self-report, suggesting the possibility of considerable incongruence between the two measures of the principal's instructional leadership.

In addition to these main findings, it is also notable that the teachers’ participation in scholarly activities is strongly associated with their use of all four instructional strategies to promote learner autonomy. For instance, the teachers’ participation in professional scholarly activities during the previous one and a half years increased the odds of moving to the next higher level in having students suggest class activities or topics by 90.0% \(= (\exp(0.642) - 1) \times 100\); model I-b)

### Table 2. (cont'd.)

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>IV. Students reflectively evaluate their own work</th>
<th>a</th>
<th>b</th>
<th>c</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff. (SE )</td>
<td>Coeff. (SE )</td>
<td>Coeff. (SE )</td>
<td></td>
</tr>
<tr>
<td><strong>Intercept, (\gamma_{00})</strong></td>
<td>-.670 (.057) ***</td>
<td>-.749 (.057) ***</td>
<td>-.768 (.057) ***</td>
<td></td>
</tr>
<tr>
<td><strong>Level 2:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSTL_PR, (\gamma_{01})</td>
<td>-.032 (.088)</td>
<td>-.029 (.089)</td>
<td>-.038 (.088)</td>
<td></td>
</tr>
<tr>
<td>INSTL_TE, (\gamma_{02})</td>
<td>.682 (.190) ***</td>
<td>.610 (.186) **</td>
<td>.653 (.194) ***</td>
<td></td>
</tr>
<tr>
<td>STURATIO, (\gamma_{03})</td>
<td>-.104 (.128)</td>
<td>-.091 (.132)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERFORM, (\gamma_{04})</td>
<td>.004 (.130)</td>
<td>.036 (.128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRIVATE, (\gamma_{05})</td>
<td>.099 (.152)</td>
<td>.094 (.165)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level 1:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEGREE, (\gamma_{10})</td>
<td>.243 (.125) *</td>
<td>.235 (.128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHOLAR, (\gamma_{20})</td>
<td>.719 (.122) ***</td>
<td>.680 (.122) ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCHLOAD, (\gamma_{30})</td>
<td>.040 (.100)</td>
<td>.048 (.097)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADMINIS, (\gamma_{40})</td>
<td>.046 (.090)</td>
<td>.068 (.092)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPERNC, (\gamma_{50})</td>
<td>-.071 (.039)</td>
<td>-.074 (.040)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subjects (ref. = math)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language arts, (\gamma_{60})</td>
<td>-.537 (.176) **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science, (\gamma_{70})</td>
<td>-1.016 (.174) ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social studies, (\gamma_{80})</td>
<td>-.608 (.211) **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign language, (\gamma_{90})</td>
<td>-.415 (.208) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art, (\gamma_{100})</td>
<td>.250 (.205)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others, (\gamma_{110})</td>
<td>.171 (.174)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Threshold diff., (\delta_{(2)})</strong></td>
<td>2.381 (.078) ***</td>
<td>2.473 (.080) ***</td>
<td>2.562 (.083) ***</td>
<td></td>
</tr>
<tr>
<td>Level-2 df</td>
<td>128</td>
<td>125</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Level-1 df</td>
<td>2,193</td>
<td>2,091</td>
<td>2,085</td>
<td></td>
</tr>
<tr>
<td><strong>Random effect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept, (u_{0j})</td>
<td>.01 150.2</td>
<td>.02 150.23</td>
<td>.03 152.13 *</td>
<td></td>
</tr>
</tbody>
</table>
and encouraging students to reflectively evaluate their own work by 105.2% \((= \exp(0.719) - 1) \times 100; \text{model IV-b})\). These patterns suggest the possibility that the teachers who actively seek new ideas about teaching and learning are more likely to put effort into promoting learner autonomy in their classrooms. The length of experience as a school teacher, however, appears to be negatively associated with some strategies of teaching for learner autonomy; the teachers with more years of experience were found to be significantly less likely to have students work in groups for joint solutions (model II-b) or work on long-term projects (model III-b). Such an inverse relationship between the length of teaching experience and teaching for learner autonomy may be plausibly attributed, at least in part, to the insufficiency and/or inadequacy of professional development opportunities conducive to the teachers’ sustained learning about the reflective practice of teaching.

### Conclusion

Educational researchers have ruminated on how to create school environments in which teachers are constantly encouraged to develop and use instructional strategies to foster student engagement in autonomous learning activities (Little, 1995; Reeve, 2006). Despite extensive evidence pointing to the beneficial effects of teaching for learner autonomy on student learning (Black & Deci, 2000; Reeve, 2006; Vallerand, Fortier, & Guay, 1997), little systematic effort has been made to understand what types of teachers, under what contextual conditions, use such instructional strategies. As a first step toward systematic investigation in this direction, this study lends some empirical credence to the idea that teachers whose school principals provide greater instructional leadership are significantly more likely to integrate instructional strategies for advancing learner autonomy into their classroom teaching, after a range of school and teacher characteristics are taken into account. This result is very suggestive, as it sheds new light on the importance of the principal instructional leadership model in which teachers are empowered to become more attuned to ways in which they can creatively overcome the sharp contradiction “between the ideal of [learner] autonomy and the prevailing rigid and closed school structure which usually prevents true [educational] experimentation” (Aviram, 1993, p. 419). We hope the findings from this study will stimulate further inquiry into how to build and sustain a school environment in which teachers are constantly encouraged to develop as reflective practitioners who can design and implement innovative instructional strategies for advancing learner autonomy in their classrooms.
This work was supported by a National Research Foundation of Korea grant funded by the Korean government (NRF-2011-330-B00159)

References


The Effect of an Authentic Learning Environment on Creating Conceptual Awareness in Environmental Education, Shaping Value Judgments and Increasing Participation Levels

Abstract

In today’s world of rapidly increasing environmental concerns, traditional environmental education provides the level of knowledge that will meet teaching targets but is ineffective in achieving the highest goals in this context. Effective environmental education should facilitate the highest level of attitude development in individuals, helping them to form value judgments and attain participatory skills. In this study, a program of authentic learning-based teaching was designed to be used in the teaching of today’s environmental issues and an attempt was made to determine the effectiveness of such teaching. The research data were collected by posing 10 open-ended questions to 168 pre-service teachers before and after the teaching program. The data were subjected to qualitative and quantitative analysis. The results showed that teaching by making use of the authentic learning-based technique of panel discussion was markedly effective in achieving the higher level skills of forming value judgments and increasing initiative-oriented participatory skills focused on the environment.

Keywords: environmental education, authentic learning, Balıkesir-Kazdağ gold exploration and processing
Introduction

Society needs to be made aware of environmental problems and environmental consciousness is made possible through achieving and fostering behavioral change in individuals (Gayford, 1996; Kuhlemeier, Berg & Lagerweij, 1999). To increase the effectiveness of environment-related class studies, teaching approaches must encourage the active participation of students, save students from the unnecessary burden of superfluous knowledge, and facilitate the development of their intellectual capacities (Şahin, Cerrah, Saka & Şahin, 2004). Social interaction, the people around us, and culture is of significant importance in making knowledge meaningful. In this context, interaction among teachers, students, persons and organizations involved in a particular topic facilitates and speeds up the learning process, making permanent retention possible. If teachers can make use of the time in the learning environment in which this interaction is possible, more effective teaching will take place and students will thus be given the opportunity to formulate and construct the knowledge in their minds, using it for more efficacious mental processes (Vygotsky, 1998; ICPD, 1999). There are four striking elements in the fundamental philosophy of the constructivist theory of learning: learning about the real world through life-contexts, learning by doing, learning through projects, and learning through problem-solving. These also constitute the starting points and fundamental philosophy of approaches to learning (Knoblock, 2003). Authentic learning refers to learning with materials not specifically developed for learning, and is based on a constructivist teaching model that seeks to ensure learning by transferring situations and complexities found in real life into the classroom environment (Cholewinski, 2009). The goal in authentic learning is to produce solutions for real-life problems rather than to directly deliver knowledge on a particular topic. Because events and solutions in authentic tasks are connected with the real world, they are not limited to the learning atmosphere that is set up in the classroom or to the knowledge that is only of interest to the individuals in the classroom. These learning situations concern not only those inside the classroom but also everyone outside the boundaries of the classroom walls. Those who share life problems must participate in the learning process (Bektaş & Horzum, 2010). The element of authentic context in authentic learning is that problems exist in the real world, that they elicit different points of view that must all be respected, and that each problem is uniquely complex. Authentic activities must consist of real-life problems and students should take active part in identifying these. Expert performance refers to applying to experts to obtain knowledge and enlisting their help to create a context. Multiple perspectives ensure that students consider a
The Effect of an Authentic Learning Environment

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The effect of an authentic learning environment is to design, implement, and determine the effects of an authentic learning-based teaching program for pre-service teachers that would increase conceptual awareness, enhance the review and assessment as well as participatory skills needed to generate solutions for a currently existing local environmental problem at the different target levels.

Method

The sample for the study consisted of 168 pre-service teachers at Balikesir University Necatibey School of Education, Science Teaching Department. The quantitative dimension of the study was based on real-life experimental research of random design and used a pre-test, post-test and a control group; details are shown in Table 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>1st and 2nd years</td>
<td>100</td>
<td>Pre-test</td>
</tr>
<tr>
<td>Study Group</td>
<td>3rd and 4th years</td>
<td>68</td>
<td>Pre-test</td>
</tr>
</tbody>
</table>
The Authentic Learning Environment

The subject of the gold exploration and mining carried out in the Kaz Mountains and Balıkesir and the effect of this on the environment was chosen as a subject in the environmental science class. This real-life world problem has attracted interest at many levels in Turkey and particularly in the region; it is a matter about which there is a great deal of information pollution. For this reason, panel discussions were organized to help students use the authentic learning environment to reach authentic scientific information and expertise as quickly as possible (Erciyes, 2008). Geophysics, mining and metallurgy engineers, the municipality mayor, two physicians and two attorneys were invited to participate in the first panel. Participating in the second panel were the deputy manager of a corporation that extracted and processed gold in the region and two mining engineers, who were all prepared to assess the subject from different perspectives.

Data collection instrument and analysis

Ten open-ended questions were used as the data collection instrument (Table 2).

Table 2. Questions on the Pre – and Post-tests and their levels and targets.

<table>
<thead>
<tr>
<th>Question</th>
<th>Level</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What do you know about gold exploration and mining techniques and methods?</td>
<td>II</td>
<td>Conceptual awareness</td>
</tr>
<tr>
<td>2. Write down all the chemicals you know that are used in gold mining.</td>
<td>II</td>
<td>Conceptual awareness</td>
</tr>
<tr>
<td>3. Write down what you know about how the waste products of these facilities can spread out into the environment.</td>
<td>II</td>
<td>Conceptual awareness</td>
</tr>
<tr>
<td>4. Write down what you know about the gold exploration and mining carried out in the Kaz Mountains.</td>
<td>II</td>
<td>Conceptual awareness</td>
</tr>
<tr>
<td>5. Write down what you know about the condition of the water, soil, air and plant life in the region during mining operations.</td>
<td>II</td>
<td>Conceptual awareness</td>
</tr>
<tr>
<td>6. Which do you think is more valuable--the top of the soil of the Kaz Mountains or what is underground?</td>
<td>III</td>
<td>Review and assessment</td>
</tr>
<tr>
<td>7. What kind of mining do you favor in terms of the country's development?</td>
<td>III</td>
<td>Review and assessment</td>
</tr>
<tr>
<td>8. Do you think gold exploration and mining is an ecological issue?</td>
<td>III</td>
<td>Review and assessment</td>
</tr>
</tbody>
</table>
The Effect of an Authentic Learning Environment

Table 3. Comparison of Pre-test Mean Scores of Study and Control Groups

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S</th>
<th>sd</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study</td>
<td>100</td>
<td>9.54</td>
<td>5.56</td>
<td>166</td>
<td>1.32</td>
<td>.189</td>
</tr>
<tr>
<td>Control</td>
<td>68</td>
<td>8.30</td>
<td>6.44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p>.05

The first dimension of the data collection instrument focused on the Level II target of conceptual awareness, the second on the Level III target of investigating and evaluation (questions 6, 7 and 8), and the third dimension was related to the Level IV target of environment-focused entrepreneurship (questions 9 and 10). The highest score that could be received in the first five knowledge-based questions was 50. The opinion of an expert was enlisted in terms of the content and language of the questions. The Level I target of ecological foundations was treated in class in a general discussion. The related and unrelated samples for the first dimension of the study and control group questionnaires were analyzed with a t test in the SPSS 17.0 program. The responses to the questions in the second dimension of the questionnaire were analyzed using the method of content analysis. The data were first coded by the researcher and themes were set up. Another faculty member was asked to repeat the reliability test part of the analysis. One of the questions in the third dimension of the questionnaire was analyzed using content analysis and the responses to the second question were calculated to find percentages.

Results

The first dimension of the questionnaire

The equivalence of the entry scores of the sample were compared with the students’ pre-test mean scores unrelated samples t test. Accordingly, it was determined that the study and control groups were equivalent; these results are shown in Table 3. The effectiveness of the teaching shown in the comparison of the post-tests of the study and control groups is shown in Table 4.
In Table 4, the difference between achievement mean scores on the post-test was significant in favor of the study group. The post-test mean scores of the study group 3rd – and 4th-year students compared by means of the unrelated samples t test are shown in Table 5.

According to Table 5, the difference between the mean scores of the 3rd – and 4th-year students displays significance in favor of the 4th-year students.

**The second dimension of the questionnaire**

The analysis of all the responses to the questions designed to determine the students’ views was performed; two of the questions are presented here. What kind of mining do you support in terms of the country’s development? The responses to this question in terms of percentages are presented in Table 6.
The responses to this question were distributed almost evenly on the pre-test. After the program of teaching, the 4th-year students stood out in their environmental awareness (55.37%), and their views on processing in Turkey (33.92%), while the “I have no idea” responses fell to 8.92%. Looking at the analysis of the question “Do you think gold mining is an ecological issue?” in Table 7, it can be seen that about 68% of the 1st – and 2nd-year students did not have an opinion but an average of 30% accepted this as an issue. After the program, the 3rd – and 4th-year students exhibited a change of 20% and 30% respectively, meaning that they accepted the matter as an issue in the percentages of 89% and 96.07% respectively.

Table 7. Findings concerning the question “Do you think that gold mining is an ecological issue?”

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes f%</td>
<td>No f%</td>
</tr>
<tr>
<td>1</td>
<td>28.26</td>
<td>2.17</td>
</tr>
<tr>
<td>2</td>
<td>31.81</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>69.38</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>66.66</td>
<td>-</td>
</tr>
</tbody>
</table>

The third Dimension of the Questionnaire
The analysis of the question posed as, “If extracting gold from cyanide is an ecological issue, what have you done about this as an individual?” can be seen in Table 8.

Table 8. Findings concerning the question, “If extracting gold from cyanide is an ecological issue, what have you done about this as an individual?”

<table>
<thead>
<tr>
<th>Year</th>
<th>I haven’t done anything f%</th>
<th>Forestation f%</th>
<th>Actions f%</th>
<th>NGO membership f%</th>
<th>Trips f%</th>
<th>Participation in Seminars/Meetings/Conferences f%</th>
<th>Being Informed f%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>82.60</td>
<td>2.17</td>
<td>2.17</td>
<td>4.34</td>
<td>2.17</td>
<td>-</td>
<td>6.52</td>
</tr>
<tr>
<td>2</td>
<td>68.18</td>
<td>9.09</td>
<td>4.54</td>
<td>-</td>
<td>-</td>
<td>4.54</td>
<td>13.63</td>
</tr>
<tr>
<td>3</td>
<td>65.3</td>
<td>2.04</td>
<td>6.12</td>
<td>4.08</td>
<td>4.08</td>
<td>6.12</td>
<td>12.24</td>
</tr>
<tr>
<td>4</td>
<td>70.58</td>
<td>3.9</td>
<td>9.8</td>
<td>1.96</td>
<td>-</td>
<td>1.96</td>
<td>11.76</td>
</tr>
</tbody>
</table>
In general, it was seen that about 75% of the students did nothing about this issue. While the percentage of the fourth-year students who had participated in seminars, meetings or conferences prior to the panels was 1.96%, the situation was different after the panels and 41.17% said that they had attended such events.

**Results and Discussion**

The groups were equal to each other in terms of preliminary knowledge before the teaching program. After the program, a significant difference was found between the study and the control groups in favor of the study group. These results show that in the teaching about the subject of gold exploration and mining in the Kaz Mountains, the technique of conducting an authentic learning-based panel was effective in reaching the Level II conceptual awareness target.

When the Level III target questions related to forming value judgments were examined, it was found at the end of the program that almost all of the 4th-year students said that the topsoil was important and that they valued both nature and the environment. These students supported the idea that mining should be carried out with methods that are not harmful to the environment, that underground resources should be mined by local investors and used to add value to the country's economy. After the teaching program, the number of the students who were in favor of mining provided the environment was respected had risen by approximately 25%. In the case of another question related to this goal, 66.66% of the 4th-year students before the panels and 96.07% after the panels stated their belief that gold exploration and mining was an ecological issue; the percentage of those that said they had no idea receded to 3.93%. It was seen that 30% of the students who had no value judgment on the topic had formed a judgment. As Rost et al. (2002) have reported, when environmental education is inadequate or fails to assist in forming...
judgments and creating depth in knowledge and skills, applications such as the one in this study may be able to overcome this problem. The question in Level IV concerning enhancing participatory skills recorded a 50% increase at its highest level after the program. Participation was effected in different activities such as seminars, conferences, protests related to environmental issues, membership in civil organizations and field trips. There were also student responses that indicated that they had started to watch for news programs on the environment on the Internet, in newspapers, on television and in other media channels. With respect to participatory skills, as Geray (2002) has stated, environmental education is not only beneficial in terms of offering individuals the opportunity to claim their environmental citizenship rights and fulfill their environmental responsibility, it is also an exercise in democracy that stresses the importance of participation. In addition, the fact that the active participation of all social groups in the environmental habitat has an important place in the Local Agenda 21 project reinforces the importance of participation in environmental education. That it has been accepted that the ideal of sustainable development can be achieved not by imposition but by the actual participation of individuals and groups is evidence of the need for a participatory educational program that will take on this function.

The environmental education that is needed in the contemporary world must go beyond the boundaries of traditional environmental protection teachings and offer a new perspective that will ensure the establishment on the earth of sustainable living culture and focus on developing cognition, perception, skills and competencies toward this end (Özdemir, O., 2007). The method of discussion used in the study awakens an interest in students and develops their skills in assessing their own understanding, their comprehension of reality, and their critical thinking processes (Aliçigüzêl, 1979; Çepni, 2005). However, the stages of the implementation of these methods and techniques are very important. The post-tests of the 3rd – and 4th-year students in the study group exhibited a difference in favor of the 4th-year students in the comparison. In the other questions, the value judgments of the 4th-year students were higher, albeit not significantly higher, than those of the 3rd-year. It is thought that the reason for this difference was that during the panels, many of the 4th-year students had volunteered to be actively involved. Also, environmental education can only be effective if programs in and outside of school support and complement each other (Güler, 2009). The technique of panel discussions is one that achieves this interaction.

The practical use of the technique, however, presents various difficulties. Among these difficulties are getting the necessary official permissions, synchronizing the time of panelists and participators, finding a secure space, meeting the cost, etc. In
this study, the difficulties multiplied because of the two different basic perspectives opposing each other. Moreover, other aspects that need to be addressed are keeping the scientific method at the forefront, maintaining and reflecting total impartiality whatever the circumstances. The panel technique is also very beneficial when viewed from the perspective of what students can gain. Because subjects cannot be taught in detail within the limits of the traditional class hour and since it is not possible for a teacher to have the same amount of knowledge in different subjects, the panel technique presents an advantage, at the same time contributing greatly to in-service teachers’ scientific and social development. With such an application, students discover that solving environmental problems is not easy, that they must listen patiently to different views on ecological issues, and they are given the skills to assess problems in all their dimensions, produce their own thoughts using their own mental abilities, and be participating individuals. It is for this reason that it is believed that using the method of authentic learning will significantly add to the effectiveness and quality of environmental education. This matter has attracted the interest of the printed and visual media and resulting publications have reached the general public. This has also become an activity that fulfills the universities’ goals of creating public awareness. It is of particular importance that faculty members be supported by their universities in their efforts to organize such activities.

Acknowledgement: I thank all of the panelists for sharing their knowledge with us during the panel discussions as well as my students who volunteered their time to work on this project.

References

Aliciğüzel, İ. (1979). İlk ve Orta Dereceli Okullarda Öğretim. İstanbul: İnkılap ve Aka Kitabevi.


ICPD (Social Development Theory ) http://www.icpd.org/development_theory/SocialDevTheory.htm
Abstract

This study aimed to explore the level of teachers’ organizational commitment and organizational citizenship behavior and the relationship between them. The data was collected through a questionnaire returned from 322 teachers working in Urmia public high schools. The results of descriptive analysis indicated that the teachers had positive perceptions of organizational commitment and organizational citizenship behaviors. Moreover, they showed a moderate positive relationship between organizational commitment and organizational citizenship behavior, and affective commitment emerged as a significant predictor of organizational citizenship behaviors.

Keywords: organizational commitment, organizational citizenship behaviors, Urmia

Introduction

As educational organizations have the responsibility of educating and training, they are the most important organizations in any developing country. Teachers are in the center of the learning – teaching cycle and they work in dynamic circumstances and this stresses the concepts of innovation, flexibility and responsiveness; so they should be willing to contribute to successful changes that are beyond their formal job requirements. These discretionary organizationally beneficial behaviors are distinguished from organizational behaviors that can be enforced on the basis
of formal role obligations (Van Yperen et al., 1999). These behaviors are called organizational citizenship behaviors (OCBs). As it is important to explore the antecedents of these behaviors, in this study we wanted to study organizational commitment as one of the antecedents. Mullins (1999) defined organizational commitment as an employee's level of identification with and involvement in the organization.

Moreover, studies on organizational commitment and organizational citizenship behaviors play an important role in analyzing the relationship that the employees have with each other, clients and the organization. Unfortunately, OCB is still an unfamiliar concept in Iran’s schools and there is a lack of research efforts in Iran in linking organizational commitment to organizational citizenship behaviors in educational settings. Therefore, this research was designed to fill these gaps.

**Organizational commitment**

One of the factors that can lead to a healthy organizational climate, increased morale, motivation and productivity is organizational commitment (Salami, 2008). Porter et al. (1974) defined organizational commitment as the strength of an individual's identification with and involvement in a particular organization. They characterized it by three psychological factors: desire to remain in an organization, willingness to exert considerable efforts on its behalf, and acceptance of its goals and values.

Meyer and Allen (1991) noted that organizational commitment is a multidimensional construct including three elements: affective, continuance and normative. Mowday, Steers and Porter (1982) defined affective commitment as “the relative strength of an individual’s identification with and involvement in a particular organization” (p. 226). Becker (1960) introduced the Side-Bet Theory of commitment and continuance commitment. The Side-Bet Theory says that employees make certain investments or side-bets in their organizations, e.g., tenure toward pensions, promotion and work relationships. These investments reduce the attractiveness of other employment opportunities. Continuance commitment is the situation in which the employees take into consideration the cost of leaving the organization and stay in the organization. Normative commitment is the commitment that a person believes that they have to the organization or their feeling of obligation to their workplace (Bolon, 1997). Meyer and Allen (1991) defined normative commitment as “a feeling of obligation.” It is argued that normative commitment is only a natural debt to the way we are raised in society. Therefore,
when it comes to one’s commitment to their place of employment they often feel they have a moral obligation to the organization (Wiener, 1982). While these three types of commitment show links between an organization and an employee and the presence of them reduces the possibility of employee turnover, the nature of these links is quite different. Employees with a high level of affective commitment not only remain in the organization, but also show considerable effort on behalf of that organization while employees with continuance commitment stay in the organization and more likely put in a minimum effort.

**Organizational citizenship behaviors**

The concept of organizational citizenship behaviors was first introduced by Organ (1977). Organ defined it as “behavior that is discretionary, but not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the effective functioning of the organization” (Organ, 1988, p.4). This definition emphasizes three main features of organizational citizenship behaviors. First, the behavior must be voluntary. Second, the behavior benefits the organization from organizational perspectives. Third, it has a multidimensional nature (Bogler & Somech, 2005). Organ (1997) modified his definition to show that OCB is “performance that supports the social and psychological environment in which task performance takes place” (p. 96).

Organ (1988) identified five major kinds of organizational citizenship behaviors.

1 – Altruism: discretionary behaviors that have the effect of helping a specific other person with an organizationally relevant task or problem

2 – Conscientiousness: discretionary behaviors on the part of the employee that go well beyond the minimum role requirements of the organization, in the areas of attendance, obeying the rules and regulations, taking breaks, etc.

3 – Sportsmanship: willingness of the employee to tolerate less than ideal circumstances without complaining.

4 – Courtesy: discretionary behaviors on the part of an individual aimed at preventing work related problems with others from occurring.

5 – Civic Virtue: Behaviors on the part of an individual that indicate that he/she responsibly participates in, is involved in, or is concerned about the life of the company.

The final goal of organizational citizenship behaviors is to increase productivity and efficiency in an organization. These behaviors benefit not only individuals, but also groups and the organization as a whole. Experienced employees who
participate in these behaviors may promote the productivity of less experienced peers by showing them the ropes and teaching them the best practices. While these behaviors increase team spirit, morale, and cohesiveness, they may reduce the amount of time and energy spent on team maintenance functions and enhance the organization’s ability to attract and retain the best employees. In addition, organizational citizenship behaviors build stronger relationships (cohesiveness) among the group members and subsequently reduce the likelihood of leaving the group. (Podsakoff et al., 2009).

Purpose of the Study

Organization citizenship behaviors are expected to be positively related to the measures of organization effectiveness and negatively related to employee turnover and absenteeism (Podsakoff et al., 2009); so it makes sense to identify antecedents of these behaviors in the organizations. The main purpose of this study is to investigate the relationship between organizational commitment and OCBs of teachers.

Hypothesis 1: Organizational commitment will be positively related to OCBs.

Hypothesis 2: The elements of organizational commitment (affective, continuance and normative commitment) will be positively related to OCBs.

Hypothesis 3: Organizational commitment will be positively related to the dimensions of OCBs (altruism, courtesy, conscientiousness, sportsmanship and civic virtue).

Hypothesis 4: Gender will be positively related to organizational commitment and OCBs.

Research Methodology

Sample: 322 teachers of public high schools in the city of Urmia formed the study group of the research. 54% of the teachers who took part in the research were female and 46% male. Urmia is situated in the center of West Azarbaijan province, Iran.

Measuring instrument: A 48-item survey instrument (questionnaire) used in the study contained two essential sections. The first section contained a scale that measured the respondents’ perception of organizational commitment. The respondents’ commitment was measured with the use of a 24 – item, 4 point Likert-
type scale adopted from Meyer and Allen (1997). The Cronbach alpha coefficient of reliability of the whole scale was satisfactory (α = 0.90). The Organization Commitment Scale consisted of three sub-dimensions: affective commitment, continuance commitment, and normative commitment.

The second section contained a measurement scale for measuring the respondents’ perception of their own level of organizational citizenship behaviors. Five major kinds of OCB activities and behaviors (altruism, courtesy, conscientiousness, sportsmanship and civic virtues) were measured in the organization citizenship behavior section of the survey instrument. In order to measure the respondents’ perception of these five behaviors, a five-point agree/disagree (Likert-type) scale was used in the instrument. The organizational citizenship behaviors scale was used in previous studies by Podsakoff et al. (1990); and Deluga (1995). The validity and reliability of the original instrument indicated that the 24 items used to measure organizational citizenship behaviors in previous studies successfully measured the five behaviors associated with OCB. The reliability reported by Podsakoff et al. for each of the five types indicated a Cronbach Alpha Value of .85 for Altruism, .82 for conscientiousness, .85 for sportsmanship, .70 for civic virtue and .85 for courtesy. Prior research suggested that socially desirable responding was not a threat to the validity of the Big Five personality dimensions (Deluga, 1995). The Cronbach alpha coefficient of the reliability of the whole scale was determined as (α = 0.85). This measurement instrument included 24 items.

This instrument was translated into Persian by the researchers and had been used for the first time in Iran. To ensure the equivalence of the measures in the Persian and English versions, the OCB scale was translated into Persian and then translated back into English by two translators. Then the original scale was compared with the translations and necessary changes were made. The study was done in the second half of 2012.

**Personal characteristics**

The only personal characteristic included in this study was gender.

**Results**

First of all, the respondents’ perceptions of organizational commitment were calculated. Findings are presented in Table 1.
Table 1. Descriptive Statistics of organizational commitment and its elements

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>322</td>
<td>8.00</td>
<td>32.00</td>
<td>23.6304</td>
<td>4.81464</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>322</td>
<td>11.00</td>
<td>32.00</td>
<td>20.3230</td>
<td>3.01316</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>322</td>
<td>11.00</td>
<td>30.00</td>
<td>21.4627</td>
<td>2.60006</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>322</td>
<td>33.00</td>
<td>89.00</td>
<td>65.4161</td>
<td>7.69193</td>
</tr>
</tbody>
</table>

As seen in Table 1, affective commitment ($\bar{x} = 23.6304$) is the highest and continuance commitment ($\bar{x} = 20.3230$) is the lowest. The average of numbers 1–4 is 2.5 and each element of organizational commitment in the scale has eight items, the predicted mean score is 20, so all the elements of organizational commitment are higher than the predicted mean scores. Moreover, as the average of numbers 1–4 is 2.5 and organizational commitment scale has twenty four items, the predicted mean score is 60 and the score mean of organizational commitment of the study is ($\bar{x} = 65.4161$), we can say that the teachers’ perceptions of organizational commitment are positive.

Then, the respondents’ perceptions of organizational citizenship behaviors were calculated. Table 2 shows the results.

Table 2. Descriptive Statistics of organizational citizenship behavior and its dimensions

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Predicted mean score</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruism</td>
<td>322</td>
<td>17.00</td>
<td>35.00</td>
<td>28.5963</td>
<td>21</td>
<td>3.02611</td>
</tr>
<tr>
<td>Courtesy</td>
<td>322</td>
<td>5.00</td>
<td>10.00</td>
<td>8.8975</td>
<td>6</td>
<td>1.05844</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>322</td>
<td>8.00</td>
<td>20.00</td>
<td>16.4938</td>
<td>12</td>
<td>1.99414</td>
</tr>
<tr>
<td>Sportsmanship</td>
<td>322</td>
<td>8.00</td>
<td>29.00</td>
<td>14.8754</td>
<td>18</td>
<td>3.36574</td>
</tr>
<tr>
<td>Civic virtue</td>
<td>322</td>
<td>11.00</td>
<td>25.00</td>
<td>18.5701</td>
<td>15</td>
<td>2.45119</td>
</tr>
<tr>
<td>Organizational citizenship behaviors</td>
<td>322</td>
<td>66.00</td>
<td>108.00</td>
<td>87.4187</td>
<td>72</td>
<td>6.62282</td>
</tr>
</tbody>
</table>

As the average of numbers 1–5 is 3 and organizational citizenship behavior scale has twenty four items, the predicted mean score is 72 and the score means of organizational citizenship behavior of the study is ($\bar{x} = 87.4187$), we can say
that the teachers’ perceptions of organizational citizenship behavior are positive. As Table 2 shows, the teachers’ perceptions of all the dimensions of organizational citizenship behavior except *sportsmanship* are positive.

The first hypothesis stated that committed teachers are more likely to engage in organizational citizenship behaviors. As the results of Pearson correlation analysis relative to this hypothesis in Table 3 indicate that \( r = 0.355, \ p < 0.01 \), the correlation is significant at 0.01 (1–tailed). It can also be said that 12.60% of the variance in organizational citizenship behaviors originated from organizational commitment when the determination coefficient \( r^2 = 12.60 \) was taken into consideration. Therefore, the first hypothesis is supported and there is a relationship between teachers’ organizational commitment and organizational citizenship behaviors.

**Table 3. Correlation between independent and dependent variables**

<table>
<thead>
<tr>
<th>Organization behavior</th>
<th>Altruism</th>
<th>Courtesy</th>
<th>Conscientiousness</th>
<th>Sportsmanship</th>
<th>Civic virtue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational commitment</td>
<td>0.355**</td>
<td>0.340**</td>
<td>0.198**</td>
<td>0.264**</td>
<td>-0.007</td>
</tr>
<tr>
<td>Sig (1-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.450</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (1-tailed)
* Correlation is significant at the 0.05 level (1-tailed)**

The second hypothesis stated that the elements of organizational commitment positively related to organizational citizenship behaviors. The second hypothesis was tested with the use of a regression analysis. Table 4 shows the results. The results of the regression analysis regarding the relationship between affective commitment and OCBs show beta coefficient of (0.312) indicating a positive relationship between variables, so it is a significant predictor of organizational citizenship behaviors. The results of the regression analysis regarding the relationship between normative commitment and organizational citizenship behaviors show beta coefficient of (0.119) indicating statistical significance, but regarding the relationship between continuance commitment and organizational citizenship behaviors the \( \rho \) value is greater than (0.05) indicating no statistical significance.

Hypothesis 3 stated that there was a positive relation between organizational commitment of teachers and five dimensions of organizational citizenship behaviors. Table 3 shows that the relationship between organizational commitment and all the dimensions of organizational citizenship behaviors except sportsmanship is significant at 0.01.
Table 4. Regression analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>21.293</td>
<td>.000</td>
</tr>
<tr>
<td>Affective commitment</td>
<td>.312</td>
<td>5.675</td>
<td>.000</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>.033</td>
<td>.572</td>
<td>.567</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>.119</td>
<td>2.081</td>
<td>.038</td>
</tr>
</tbody>
</table>

The researcher wanted to know if males and females are different in their perceptions of the quality of organizational commitment and organizational citizenship behaviors. The independent T test was used to examine this relationship. Table 5 shows the results.

The relationship between gender and organizational commitment is shown in Table 5.

The results indicate that sig is (.025) and lower than the Alpha Risk at (ρ= .05), but the upper bound is positive and the lower bound is negative, which indicates that there is no measurable difference between variables.

Next, a test was conducted to see if there was a difference between the males and females regarding the level of organizational citizenship behaviors. The results of the test in Table 5 show that sig is (.002) and lower than the Alpha Risk at (ρ= .05), but the upper bound is positive and the lower bound is negative, which indicates that there is no measurable difference between the variables indicating that there is no significant differences in levels of organizational citizenship behaviors between the males and females. Therefore hypothesis 4 is not supported.

Discussion

The main goal of this research was to study the impact of the organizational commitment on the organizational citizenship behaviors. The results indicated that organizational commitment and organizational citizenship behavior were associated with each other. The correlation value between organizational commitment and organizational citizenship behaviors was .355, which showed a moderate relationship between the organizational commitment and organizational citizenship behaviors. This result is consistent with the previous studies (Noor, 2009; Ensher et al., 2001 and Yilmaz and Cokluk – Bokeoglu, 2008). This research confirmed the social exchange theory (Bolon, 1997) by stating that members committed to their organization are better citizens than non-committed members. Considering the research findings, it can be said that commitment levels of teachers should be
Table 5. Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F.</td>
<td>Sig</td>
<td>t</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>Equal variances assumed</td>
<td>5.039</td>
<td>.025</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-1.254</td>
<td>261.382</td>
</tr>
<tr>
<td>OCB</td>
<td>Equal variances assumed</td>
<td>9.633</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-.844</td>
<td>274.049</td>
</tr>
</tbody>
</table>
increased in order to increase the frequency of performing extra role behaviors. These behaviors are even more important in educational settings since they are places where extra role behaviors are much more needed. Extra role behaviors of the teachers will result in a contribution to education. Teachers with high organizational citizenship behaviors are very cooperative and supportive in solving students’ problems and understanding their learning power. Thus, they deliver the education which is outrivalling the quality level of education.

The results showed that the mean of continuance commitment is the lowest. Since the monthly salary of teachers is not enough even to meet the primary necessities of daily life, it seems logical. The results also showed that among the elements of organizational commitment, the affective commitment had the strongest relationship with the organizational citizenship behaviors. Affective commitment is considered as the best form of commitment because the employees with a high level of affective commitment have positive attitudes to their jobs and are ready to make extra effort when needed.

The results indicated that there was no measurable relationship between gender and organizational commitment. This result is consistent with the previous studies (Khalili and Asmavi, 2012, and Kacmar et al., 2003. (Moreover, the findings showed that gender was not related to organizational citizenship behaviors and this is consistent with the study done by Podsakoff et al. (2000), while Kidder and McLean Parks (1993) found that there is a difference between men and women regarding these behaviors.

The findings of this study have implications not only for managers, but also researchers. The research done by Smith et al. (1983) made it clear that many vital behaviors in organizations rely on acts of cooperation, altruism, and spontaneous unrewarded help from employees. Thus, OCBs play an important role in the smooth functioning of an organization and managers should be concerned with ways of improving them. Above all, the government should provide necessary facilities, a conductive organizational climate and take actions that cater for the welfare of teachers to improve organizational commitment, especially affective commitment. This study may also help other researchers in analyzing the organizational citizenship behaviors as the outcome of organizational commitment.

References


Developing the Culture of Collective Learning Among Malaysian Teachers

Abstract

Dynamic changes in education urge teachers to learn continuously to improve their knowledge via formal or informal means. This paper discusses teachers’ collective learning practices in order to build a culture of collective learning among teachers. Questionnaires were distributed to 321 teachers in 14 High Performing Schools (HPS) throughout Malaysia. The results indicated that HPS possessed collective learning culture when all the collective learning activities were practiced at a high level by the teachers.

Keywords: collective learning, teacher learning, organizational learning, learning culture.

Introduction

Collective learning refers to team learning that involves the culture of teamwork within an organization. The culture includes important values such as mutual respect, trust and mutual support to build team commitment and professionalism. A culture of collective learning relies on integrated learning among the members of the organization. Teachers constantly add knowledge through self-learning and then share their knowledge with colleagues. This effort helps teachers to enhance the knowledge and improve their efficacy and effectiveness in performing their routine tasks.

A study by Silins, Zarins and Mulford (2002) found that high quality teachers practiced collective learning. The quality is measured in terms of the teacher's
ability to show commitment in their work to achieve the vision and mission of the school. According to Hord (2009), the most significant factor to determine whether students can learn effectively or not is the quality of teaching. She believes that the teaching quality can be improved through collective learning. Lambert (2003) stressed that it was very important for teachers to understand the relationship between learning along with the students with learning in a team. Learning together with fellow students is analyzing data to identify students’ learning problems. Priority is given to students’ learning needs. Meanwhile, teachers need to take responsibility for acquiring more knowledge, strategies and approaches to improve the effectiveness of their teaching. This task should be seen by teachers as part of their official duties. Through team learning, teachers analyze the current situation, the result of applying the existing knowledge of individual and team learning, develop strategies and take appropriate action in achieving their goals in learning and developing their professionalism.

**Collective Learning Activities among Teachers**

A study by Retna and Ng (2006) suggested that school must emphasize the ability of its teachers to see the importance of collective learning. The study was conducted with the use of ethnographic methods involving face to face interviews, observations of meetings and informal conversations with students and parents aimed at leveraging the idea of “Thinking School Learning Nation (TSLN),” which is the vision of the Singapore Ministry of Education. Some of the practices that cultivate collective learning is learning collectively, engaging in dialogue and building trust between each other. Zuraidah Abdullah (2009) detailed the practice of collective learning as the sharing of information, planning and solving multiple problems and improving teachers’ and students’ learning opportunities as well as applying new skills, new teaching strategies and new practices in daily work. Learning synergies can only be built through team learning. Therefore, teachers need to build a positive perception of their team. Dahlgren and Chiriac (2009) carried out a study on the concept of responsibility for learning and teamwork. The study was conducted in Sweden using semi-structured interviews involving 20 teachers. Their findings show the teachers admit that their job requires working in teams. In addition, the study also found that teamwork can be incentivized and facilitate team learning. The understanding of the teamwork orientation affects teachers’ collective learning ability. A study carried out by Gregory (2010) to examine how teachers solve problems as a team showed that teacher learning
outcomes differed due to positive or negative perception of the teacher by their team members.

Opportunities to learn in a team are important factors improving teacher professionalism. A study conducted by Armour and Makapoulu (2012) found that teachers who are encouraged to work collectively are more effective. The data were collected in structured interviews with six elementary school teachers, six teachers, four physical education teachers, two special education teachers and two teaching assistants. Their findings indicate that interactive learning opportunities and collective engagement are positive factors that enhance teachers’ professionalism. Therefore, building a strong learning team is a must in developing a culture of collective learning. Steinhilber (2008) lists three features necessary to build a strong team: co-ordination, communication and camaraderie. Coordination is the ability to coordinate goals, ways of working, roles and responsibilities of each team member. Honesty and openness in sharing information allows for effective communication within the team. Hence, mutual trust among team members builds camaraderie. Heimeriks (2008) pointed out that team members must be satisfied with working as a team to build a sense of trust. Further, a study by Lucas (2010) also related the role of the team to the culture of learning. He found that the culture of team learning in teamwork has a positive impact on the process of knowledge transfer within the organization. Continuous knowledge transfer will ensure sustainable learning in organizations. A study on factors affecting sustainability in organizational learning was carried out by Prugsamatz (2010). His finding showed that individual motivation for learning and group dynamics have a significant influence on the sustainability of learning within the organization. Learning sustainability enables schools to develop the culture of collective learning.

Objectives and methodology

This study aims to identify activities that are linked to the collective learning among teachers in the Malaysian High Performance Schools. Data were collected with the use of questionnaires. Items in the questionnaires were developed with the help of fifteen experts in education. The section covers five elements of teachers’ collective learning such as a) elements of dialogue and discussion, b) elements of knowledge sharing, c) elements of reflecting and acting as a team, d) elements of monitoring the learning of team members, and e) elements of excellent teamwork. A five-point Likert-type scale was used for measurement: 1 = Not at all, 2 = Rarely, 3 = Sometimes, 4 = Always and, 5 = Very Often. A pilot study of 30 school teach-
Developing the Culture of Collective Learning Among Malaysian Teachers

ers showed that Cronbach’s Alpha reliability index for each item was in the range proposed by Chua (2006), i.e., from .902 to .945.

The questionnaires were distributed to 321 teachers in 14 selected High Performance Schools (HPS) throughout Malaysia. High Performance School is a recognition by the Malaysian Ministry of Education for schools that have achieved the highest level based on the standard determined by the Inspectorate and Quality Assurance. The schools have been able to devise a variety of programs to maintain and boost performance while guiding other schools to improve their performance. Among them is a program of training and professional development of teachers and school leaders, giving autonomy to schools to implement the curriculum and flexible personnel management, school performance-based compensation provision and implementation guidance to neighbouring schools.

The data obtained from the questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS) version 20.0 to assess mean and standard deviation of the stated variable characteristics. The use of the means is a method widely used to describe the responses of all survey participants to the items in an instrument (Creswell, 2008). For the purpose of describing the level of collective learning practices among the teachers in the HPS, this study modified the mean value interpretation. The level of practice interpreted by the mean value is interpreted as low when the mean score is between 1.00 and 2.33, moderate when the mean score is between 2.34 and 3.67, and high when the mean score is between 3.68 and 5.00.

Findings and discussion

Table 1 shows all the elements of collective learning for dialogue and discussion practiced at a high level in the High Performing Schools (mean range between 4.06 and 4.31). All the elements of knowledge sharing were also practiced at a high level in the High Performing Schools (mean range between 4.11 and 4.26). Furthermore, all the elements of making reflection and taking action as a team were practiced at a high level in the High Performing Schools (mean range between 4.26 and 4.42). As shown in the Table, all of the elements of monitoring and developing the team members were practiced at a high level of implementation in the High Performing Schools (mean range between 4.20 and 4.50). Finally, the Table also shows that all the elements for outstanding teamwork were practiced at a high level in the Malaysian High Performing Schools HPS (mean range between 4.26 and 4.65).
### Table 1

#### ELEMENTS OF PROFESSIONAL DIALOGUE AND DISCUSSION

<table>
<thead>
<tr>
<th>Description</th>
<th>Std. Dev.</th>
<th>Mean score</th>
<th>Level of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal conversations become part of the learning resources for teachers</td>
<td>0.66</td>
<td>4.31</td>
<td>High</td>
</tr>
<tr>
<td>Conversations among teachers focused on their professional development</td>
<td>0.71</td>
<td>4.19</td>
<td>High</td>
</tr>
<tr>
<td>Teachers debate their opinion professionally</td>
<td>0.68</td>
<td>4.21</td>
<td>High</td>
</tr>
<tr>
<td>Meeting conducted like a professional dialogue</td>
<td>0.87</td>
<td>4.07</td>
<td>High</td>
</tr>
<tr>
<td>Ongoing professional dialogue occurred among teachers</td>
<td>0.79</td>
<td>4.15</td>
<td>High</td>
</tr>
<tr>
<td>Teacher expresses their views and ideas openly</td>
<td>0.83</td>
<td>4.06</td>
<td>High</td>
</tr>
</tbody>
</table>

#### ELEMENTS OF KNOWLEDGE SHARING

<table>
<thead>
<tr>
<th>Description</th>
<th>Std. Dev.</th>
<th>Mean score</th>
<th>Level of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher implements in-house training</td>
<td>0.78</td>
<td>4.25</td>
<td>High</td>
</tr>
<tr>
<td>Teacher shares their expert knowledge</td>
<td>0.81</td>
<td>4.26</td>
<td>High</td>
</tr>
<tr>
<td>Teacher shares reading materials with friends</td>
<td>0.81</td>
<td>4.16</td>
<td>High</td>
</tr>
<tr>
<td>Teaching aids shared with team members and other teachers</td>
<td>0.71</td>
<td>4.35</td>
<td>High</td>
</tr>
<tr>
<td>Action research outcomes are presented for the benefit of teachers / school staff</td>
<td>0.89</td>
<td>4.11</td>
<td>High</td>
</tr>
<tr>
<td>New methods of teaching and learning shared with colleagues</td>
<td>0.74</td>
<td>4.25</td>
<td>High</td>
</tr>
<tr>
<td>Teacher collaborates with teachers outside of school in the case of dissemination of knowledge</td>
<td>0.74</td>
<td>4.23</td>
<td>High</td>
</tr>
</tbody>
</table>

#### ELEMENTS OF REFLECTING AND TAKING ACTION IN TEAM

<table>
<thead>
<tr>
<th>Description</th>
<th>Std. Dev.</th>
<th>Mean score</th>
<th>Level of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee meeting served as a platform to reflect and solve teachers’ teaching and learning problems</td>
<td>0.68</td>
<td>4.38</td>
<td>High</td>
</tr>
<tr>
<td>Teacher meetings leveraged to make important decisions regarding school agenda</td>
<td>0.71</td>
<td>4.36</td>
<td>High</td>
</tr>
<tr>
<td>Action research performed to improve the teaching and learning process</td>
<td>0.76</td>
<td>4.26</td>
<td>High</td>
</tr>
<tr>
<td>Data and information used for decision-making</td>
<td>0.69</td>
<td>4.31</td>
<td>High</td>
</tr>
<tr>
<td>Knowledge sharing outcomes documented for future reference</td>
<td>0.72</td>
<td>4.30</td>
<td>High</td>
</tr>
<tr>
<td>Continuous benchmarking activities undertaken in accordance with the school’s needs</td>
<td>0.72</td>
<td>4.42</td>
<td>High</td>
</tr>
</tbody>
</table>

#### ELEMENTS OF MONITORING THE DEVELOPMENT OF TEAM MEMBERS

<table>
<thead>
<tr>
<th>Description</th>
<th>Std. Dev.</th>
<th>Mean score</th>
<th>Level of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Department of Department ensures that all members engage in learning activities</td>
<td>0.69</td>
<td>4.41</td>
<td>High</td>
</tr>
<tr>
<td>Feedback from observational activities discussed thoroughly</td>
<td>0.81</td>
<td>4.20</td>
<td>High</td>
</tr>
<tr>
<td>Teacher shows accountability to colleagues</td>
<td>0.69</td>
<td>4.33</td>
<td>High</td>
</tr>
<tr>
<td>Teacher trusts their colleagues</td>
<td>0.64</td>
<td>4.45</td>
<td>High</td>
</tr>
<tr>
<td>Mentoring and coaching activities become the school culture</td>
<td>0.70</td>
<td>4.32</td>
<td>High</td>
</tr>
<tr>
<td>Teacher’s learning assisted by the Buddy System</td>
<td>0.80</td>
<td>4.21</td>
<td>High</td>
</tr>
</tbody>
</table>
ELEMENTS OF EXCELLENT TEAMWORK

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher willing to work with every team member</td>
<td>0.61</td>
<td>High</td>
</tr>
<tr>
<td>Teacher recognizes the knowledge and skills of their team members</td>
<td>0.60</td>
<td>High</td>
</tr>
<tr>
<td>Teacher understands that teamwork is important to achieve the vision and mission of the school</td>
<td>0.59</td>
<td>High</td>
</tr>
<tr>
<td>Teacher produces modules / teaching aids in teams</td>
<td>0.77</td>
<td>High</td>
</tr>
<tr>
<td>Teacher feels satisfied working in teams</td>
<td>0.65</td>
<td>High</td>
</tr>
</tbody>
</table>

The findings of this study indicated that all collective learning elements were practiced very often by the teachers in the High Performing Schools. These findings match with the findings of Zuraidah Abdullah (2009), which showed that Fully Residential Schools achieved the highest mean score for the practice of collective learning and application. This means excellent schools provided teachers with the learning environment which became the encouraging factors for teachers to enhance their learning. Teachers constantly strive to improve their potential as effective teachers. Professional dialogues became means for teachers to identify the most effective strategies and approaches to achieve the aims of the school. Learning outcomes applied to everyday tasks improve the quality of teachers’ work. Many improvements were made to the teaching and learning activities performed as a result of continuous and intensive team reflection. Activities and other school programs are also carried out with a strong commitment to achieve the goals and vision of the school. Collective learning refers to team learning that involves the culture of teamwork within the organization. The culture of collective learning, including important values such as respect, trust and mutual support, helps in the development of an excellent team. Integrated learning relies on teachers’ commitment and professionalism within their team. Good teamwork helps teachers to enhance their knowledge and skills and improve their efficacy and effectiveness in performing their routine tasks.

**Summary and recommendations**

Teachers in the Malaysian High Performing Schools have developed the culture of collective learning by practicing all the elements of professional dialogue and discussion, sharing knowledge, reflecting and taking action in a team, monitoring and developing team members in learning and practicing excellent teamwork. Collective learning creates a lot of opportunities for teachers to share information, plan and solve problems as a team. Teachers in their team also have the opportu-
nity to improve through dialogue and discussion and apply new skills, strategies and practices in their daily tasks. The continuous application of new knowledge leads to the improvement of the overall quality of teaching in the schools. Quality improvement has a significant and meaningful impact on students’ learning and their performance in school.

Teachers have been burdened with workload at school. In addition to the teaching and learning processes in the classroom, dealing with students outside of the schooling time is common to all teachers. The implications of this study suggest that collective learning should be practiced to solve some of the many problems faced by teachers. Collective learning culture allows teachers to motivate each other mutually in terms of learning through everyday tasks. The culture encourages team members to support each other, as well as facilitates them in performing their daily tasks. Collective learning culture provides a learning environment for teachers to work harmoniously in a team, help each other and care for their team members. Difficult tasks can be performed more easily with strong emotional support in a strong team. Mutual problem-solving, sharing of knowledge and experience and mutual respect are indicators of excellent teamwork. Such culture is not easy to develop but essential for a successful school.

References

Developing the Culture of Collective Learning Among Malaysian Teachers


New Educational Review

Special Pedagogy
Self-regulation of Learning in Secondary School Students with Special Educational Needs and other Students of Vocational and Technical Schools

Abstract

Our study examined the differences between students with special educational needs (SEN) and other students in vocational and technical schools in different areas of self-regulation: learning motivation, cognitive and metacognitive strategies and emotional regulation in learning. The sample consisted of 140 students, of whom 20 were students with SEN. Differences between students were most often expressed in the area of lower perceptions of self-efficacy. With respect to the regulation of time and study environment, the students with SEN had greater problems with following the study schedule than other students; in the area of taking responsibility for learning, the students with SEN gave up faster and did not persevere in studying the more difficult subject matter.

The students with SEN also expressed less positive beliefs about themselves and their abilities; they sought study support later or not at all compared to other students and gave up on studying more difficult course material. In inclusive classes with the students with SEN, the teachers should dedicate more time to develop self-regulated learning skills and strategies and thus increase students’ feeling of control over the learning process.

Keywords: self-regulation, learning, students with special educational needs, other students, vocational and technical schools

Slovene legislation (Vocational and Technical Education Act, 1996; The Placement of Children with Special Needs Act, 2007) ensures secondary school students
with special educational needs (SEN) the right to attend vocational and technical schools. After primary school, some students with SEN are included in secondary schools under the auspices of centers for people with SEN; however, more and more enroll in secondary school programs together with other students. With the support of multidisciplinary teams, students with SEN capable of achieving the minimum educational standards in school are directed into educational programs with adapted implementation and additional professional support (APS). APS most frequently takes place as out-of-class support for individuals or groups. In Slovenia, APS is implemented by subject teachers who most often lack relevant knowledge and skills for work with secondary school students with SEN. Students with officially recognized SEN have an individualized program that helps them achieve the objectives of a given general education program. Such individualized programs define the adaptations to the educational process in the classroom for students with SEN. Besides providing learning support and learning strategies for impairment management, the objective of APS should be to help students develop a positive self-concept, empowerment and self-advocacy; however, practical experience shows that the emphasis is most frequently on classical teaching of the subject matter. The situation regarding the education of secondary school students with SEN is not encouraging. It reveals poor academic results, in particular on the standard-based achievement tests, as well as on the national-level Mathematics and Slovene tests, with the results of SEN students deviating from those of their peers (Opara et al., 2010).

The number of students with SEN in schools has grown considerably in recent years. The most numerous group of students with SEN in vocational and technical schools in Slovenia comprises students with learning difficulties (LD). With lower cognitive abilities and problems with adaptive behavior, memory, communication and other issues, these students often fail at tasks that require planning and task implementation strategies. When they are left with no response from the outside, or receive no encouragement, or when they are not up to the task, they give up on trying to solve it. Research on the study habits of students with learning difficulties (LD) in general supports the metacognitive perspective and points out that these students are cognitively and/or motivationally insufficiently involved in the assignments (Torgesen, 1980). The reasons that further impede the engagement of students with LD in the educational process also include Attention Deficit Hyperactivity Disorder (ADHD). Bender (2008) points out that many students with LD show signs such as impulsiveness and attention deficit, which are both characteristic of ADHD and can result in risky behavior. Because adolescence is characterized by numerous socio-emotional challenges and changes, these students
can also develop emotional malaise, including low self-concept, anxiety and a low level of the decision-making ability (Kauffman, 2001). Midgley and Urdan (1992) have noticed that, upon enrolment in secondary school, students with LD are particularly prone to experience unpleasant feelings related to learning ability, lower grades, motivation and many social concerns. This is why it is even more important for students with SEN to develop self-regulation and decision-making skills, to be able to set objectives and achieve them, to be aware of as well as to understand themselves and their own problems (Wehmeyer, 1999), all of which contributes to the development of the learning-to-learn competence as early as at primary school.

The learning-to-learn competence factors are complex and include motivation, self-concept, knowledge of learning strategies, persistence, the ability to effectively organize one’s own opinion, independently or collectively assess one’s own work and seek advice and support if necessary. The essential component of the learning-to-learn competence is a positive attitude reflected in the orientation towards the goal and towards problem-solving and overcoming obstacles. A positive experience with learning and education in childhood and adolescence is the vital encouragement for lifelong acquisition and upgrading of knowledge and skills.

Learning at school is typically intertwined with emotions such as fear, anger and anxiety, as well as those of pride, joy, enthusiasm and satisfaction. Less successful students lacking self-confidence, who live in constant fear of knowledge assessment and grading, are in the most difficult situation. The role of school is to help the student form a realistic view of himself and his abilities and develop basic self-confidence for confronting assignments. Development of self-regulation for learning is an important goal of education because it is vital both for guiding the individual through formal education as well as for (self-)education after its completion. It has an important impact on the learning outcome (Bakracevic Vukman and Licardo, 2010, Boekaerts, 1997). A well-self-regulated individual is goal-oriented, aware of his efficiency, prepared for practice and completion of assignments, can manage time well and can employ cognitive strategies and metacognitive awareness efficiently.

**Aim of the study**

In the empirical part of the study, we sought to establish whether there were differences between students with SEN and other students in vocational and technical schools with respect to various aspects of self-regulation of learning: motivation for learning, cognitive and metacognitive strategies and emotion control in learning.
Methodology

Sample
The study was based on a non-random, *ad hoc* sample of students from various vocational and technical secondary school programs. The sample comprised 140 students, 15.7% of whom were in the Metal Molder, Machine Mechanic and Mechatronic Operator programs; 40.7% in the Car Mechanic program and 12.1% in the Dressmaker-Tailor program. The majority of the students, 87.1%, were male, and only 12.9% were female. 14.3% were students officially diagnosed with special needs. These were students with a mild intellectual disability and borderline intellectual abilities and who had been recognized by the multidisciplinary teams as students with learning difficulties. This entitled them to additional professional support and an adapted educational process at school. All the students with special needs in our sample had individualized programs.

Table 1. Distribution of students with special educational needs (SEN) and other students with respect to the educational program

<table>
<thead>
<tr>
<th>Educational program</th>
<th>Other students</th>
<th>Students with SEN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Molder</td>
<td>16</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Machine Mechanic</td>
<td>22</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Car Mechanic</td>
<td>48</td>
<td>9</td>
<td>57</td>
</tr>
<tr>
<td>Mechatronic Operator</td>
<td>20</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Dressmaker-Tailor</td>
<td>14</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>20</strong></td>
<td><strong>140</strong></td>
</tr>
</tbody>
</table>

Instruments
A Metacognitive, Cognitive and Motivational Self-Regulation of Learning Questionnaire comprised the Motivated Strategies for Learning Questionnaire – the MSLQ – (Pintrich, Smith, Garcia, 1991), which consists of a scale of 81 items that measure learning motivation and the use of cognitive and metacognitive strategies in learning. The instrument has 8 subscales that measure intrinsic and extrinsic motivation, self-efficacy, anxiety, cognitive and metacognitive strategies, regulation of time and study environment, seeking additional professional support and acceptance of responsibility for learning. The Emotional Regulation Questionnaire (Taksic, 2001) comprises 20 statements with a 5-point scale. The validity of the assessment scale clusters was verified with the use of factor analysis. The data were processed at the level of descriptive and inferential statistics.
Procedure

Owing to the students’ expressed LD in the areas of attention, reading and writing, we adapted the survey implementation. We ensured a better understanding of the content by reading the questions out loud. In addition, surveying took place with the help of a teacher and a counselor, who offered the students additional explanation and allowed them more time to complete the questionnaire, and more breaks, as well as regularly checking whether the students understood the questions.

Results and interpretation

As is evident from Table 2, statistically significant differences occurred between the students with SEN and other students in the perception of self-efficacy.

Table 2. The Mann-Whitney test of differences in the perception of self-efficacy with respect to individual items between students with SEN and other students

<table>
<thead>
<tr>
<th>Perceived self-efficacy items</th>
<th>Students</th>
<th>N</th>
<th>R</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I believe I will receive an excellent grade in this class.</td>
<td>Other students</td>
<td>120</td>
<td>74.10</td>
<td>768.50</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>48.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. If I try hard enough I will understand the course material.</td>
<td>Other students</td>
<td>120</td>
<td>72.84</td>
<td>919.50</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>56.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I’m confident I can do an excellent job on the assignments and tests in this course.</td>
<td>Other students</td>
<td>120</td>
<td>73.24</td>
<td>804.00</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>50.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I’m certain I can master the skills being taught in this class.</td>
<td>Other students</td>
<td>120</td>
<td>73.15</td>
<td>882.00</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>54.60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: In the table there are only items where statistically significant differences between the two groups occurred.

The feeling of self-efficacy in students with SEN is statistically significantly lower. These students display a weaker self-concept and perceive themselves as less able and successful compared to other students. In a third of the items measuring the students’ self-efficacy, the differences are statistically significant or indicate a tendency towards difference; in all the items, mean values are lower for the students with SEN. Bender’s (2008) research also shows that adolescent students with LD are more aware of differences in learning abilities compared to their peers, which is a consequence of the cumulative effect of having LD.
We can conclude that a student who has a mirror placed before him by his teachers, classmates and parents sees a reflection of himself as a failure; this, in turn, makes his expectations about his own abilities develop in line with this unenviable image. The picture of an unsuccessful, incompetent and unappreciated person also manifests itself in the form of a person who expects and even accepts failure.

**Table 3.** Results of the Mann-Whitney test of differences in individual items with respect to regulation of time and study environment between students with SN and other students

<table>
<thead>
<tr>
<th>Regulation of time and study environment items</th>
<th>Students</th>
<th>N</th>
<th>R</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I find it hard to stick to a study schedule.</td>
<td>Other students</td>
<td>120</td>
<td>67.52</td>
<td>895.00</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>84.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: In the table there are only items where statistically significant differences between the two groups occurred.

In terms of time and study environment regulation (Table 3), a tendency towards difference appears only in the study schedule item. Students with SEN struggle more than other students to follow a schedule. The result shows that the students with SEN also differ from other students in the area of metacognitive abilities, time and work planning, attention focusing, systematic ways of studying as well as monitoring and verifying their own work and results, as has been pointed out by other studies (Lerner, 1997, Torgesen, 1982).

**Table 4.** Results of the Mann-Whitney test of differences with respect to the cognitive and metacognitive strategies: responsibility acceptance among students with SEN and other students

<table>
<thead>
<tr>
<th>Acceptance of responsibility items</th>
<th>Students</th>
<th>N</th>
<th>R</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. When course work is difficult, I give up or only study the easy parts.</td>
<td>Other students</td>
<td>120</td>
<td>67.88</td>
<td>885.00</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>86.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: In the table there are only items where statistically significant differences between the two groups occurred.

The difference between the students with SEN and other students appears with respect to perseverance in studying difficult course material (Table 4). The students with SEN give up more easily and sooner on difficult course work or study only the easy parts. Since students with lower intellectual potential have
problems understanding the course material, in particular the abstract parts and more demanding concepts, solving complex problems and understanding longer instructions, this result is not surprising. Compared to their peers, students with SEN are typically more socially dependent in the educational process and therefore rely on external encouragement and control by their teachers and other adults (Levin, 1992). A history of failure can make them start avoiding it by clinging to the familiar, avoiding risk or claiming that they do not care about success; they even become used to failure and take it for granted (Covington, 1992; Woolfolk, 2002). They are paralyzed by fear of failure and unable to engage in new activities, which on the outside appears as student laziness and resignation in the following sense: “Why try at all if I always fail?” (Calarusso, O’Rourke, 1999).

McNamara et al. (2008) and Cosden (2001) have observed that in adolescents with LD, the frustration and damaged self-respect, consequent on those problems, become so evident that they gradually lose motivation for studying, skip classes and show forms of risky behavior.

<table>
<thead>
<tr>
<th>Emotional regulation items</th>
<th>Students</th>
<th>N</th>
<th>R</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I can well remember situations in which I was angry.</td>
<td>Other students</td>
<td>116</td>
<td>71.22</td>
<td>884.50</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>Students with SEN</td>
<td>20</td>
<td>52.72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: In the table there are only items where statistically significant differences between the two groups occurred.

In the area of emotional regulation, a statistically significant difference between students with SEN and other students appears with respect to only one item. Other students think that they remember the situations in which they were angry better than students with SEN. The result most likely reflects the internalized helplessness of students with SEN and their greater resignation. In two items, a tendency towards difference appears: students with SEN claim more frequently that their disposition has a strong influence on their way of thinking; and when they are in a bad mood, even small problems seem beyond their control. Emotional regulation is linked to success at school because it is known that negative feelings can impede cognitive functioning. Fear, for example, has a negative effect on the higher cognitive functions, the ability to connect wider knowledge and solve problems. Students seek superficial solutions and give or write down the first answer that comes to mind. We can assume that problems with emotional regulation in students with
SEN are preconditioned by weak inner control, impulsiveness and unrest, all of which are characteristics typical of ADHD and often connected with LD.

**Conclusion**

Our empirical study examined the differences between students with SEN and other students in vocational and technical schools in the areas of learning motivation, cognitive and metacognitive strategies and emotional control in learning. The differences between students are most often expressed in the area of lower perceptions of self-efficacy (achieving good grades, conviction about successfully completed assignments and tests and conviction about mastering skills). With respect to the regulation of time and study environment, students with SEN have greater problems than other students in following the study schedule; in the area of taking responsibility for learning, students with SEN give up faster and do not persevere in studying the more difficult subject matter.

The students with SEN who participated in the survey expressed a less positive belief about themselves and their abilities; they sought study support later or not at all compared to other students and gave up on studying more difficult course material. In inclusive classes containing students officially recognized as having LD (many of them have intensive impairments), the teachers should dedicate more time to teaching learning-to-learn strategies and thus increase students’ feeling of control over the learning process. The student who knows how to study and knows various strategies can use them to achieve better results, which will encourage him to engage actively in the learning process and allow him to develop the notion of responsibility for his work. In order for students with LD to be more efficient and successful in the educational process, the additional support ought to be implemented on an individual basis and help students to get organized, reflect their learning and function strategically. It is a fact that students with SEN, in particular students with LD, require systematic and explicit teaching of specific cognitive strategies (e.g., visualization, verbal retrieval, paraphrasing, summary and grading/evaluation) instead of classical teaching, for which they need prior developmental preparation (Montague and Warger, 1997, Agran et al., 2000). Students also need to be reminded and encouraged to use the strategies flexibly and adapt them with respect to various study environments. Besides being taught appropriate skills and strategies by teachers, students with SEN should be allowed to set and evaluate their own objectives in the areas of self-direction and self-regulation (Schmidt and Čreslovnik, 2010).
Since the results of our survey have shown a low perception of self-efficacy among the students with SEN, we wonder how successful the education system is in the implementation of one of the fundamental tasks of early education: i.e., appropriate development of the learning-to-learn competence. It is necessary to develop motivation and a positive self-concept in all participants for the next stages of education; however, students with SEN deserve even more attention in this area. When including students with SEN in schools, it is necessary that they are provided with more than just physical inclusion and the formally required adaptations and support. Teachers who teach students with SEN in secondary schools need to have appropriate qualifications for work with a heterogeneous population of adolescents with SEN. In order for teachers to be able to effectively teach students with SEN in secondary schools in the future, systematic training on inclusion and the characteristics of students with LD and SEN, strategies centered on the student, the development and learning evaluation methods should be offered. The teacher must try to establish an inclusive climate in the classroom as well as recognize and allow for the diversity of each individual, i.e. achieve social-emotional integration (Forlin et al., 1996, Loreman, 1999, Schmidt and Čagran, 2006).

The task of vocational and technical education is to ensure professional and general competences that will allow the individual to follow developments in their profession, participate in such developments and upgrade or change vocation if necessary. In addition, students should be familiarized with various cognitive and metacognitive strategies and systematically trained to reflect on and evaluate their own study process. By making them reflect on their own learning process, we allow weaker students to become successful and to experience success as a consequence of their own activity, while experiencing themselves as subjects with an impact on their learning and learning outcomes. We believe that teachers and other professionals in schools should be aware that by learning, teaching and developing the skill of self-regulation, self-directing and self-efficacy and by using these in various situations (in school and beyond), we can prevent social exclusion and interruption of schooling for students with different learning problems.

References:


Chronicle
The omnipresent process of globalization characterizes the times we live in. We understand “globalization” mostly as “Westernization,” but also “Americanization.” Yet, it is worth paying attention to influences from other directions that possess great potential, even though they are not so obvious when considered from the perspective of the actual power of the influence. This exogenous source of change is Asia. Asia, therefore, corresponds to people, market, and natural resources.

Culture is a value that is hard to be overrated in this kind of discussion. On the one hand, it is tradition (customs that have been present for many centuries, the structure of social bonds, and religion with its strong reference to fundamentalism) that confirms the power of culture. But, on the other hand, the era of post-modernity, which has its roots in Western civilization, has brought about a totally different quality of life in which consumerism is dominant and the focus on the present time is important. When examined from the perspective of modern Polish society, the influences of the aforementioned culture can be viewed as a niche. Fascination with what Western culture is offering is something obvious and expected. In a sense, it can be explained by the many years of Poland’s isolation. Therefore, the systemic transformation, with its free market and democratically structured society, seemed to be the only possible solution. Nevertheless, after the experience of the last 25 years, Polish society is more critical and reflexive.

It is worth referring to studies that present alternative cultures for the previously mentioned reasons, among other things. The specific character of the humanities and social studies is the fact that it is difficult to indicate milestones in human development, a particular piece of work, or initiative. More attention is paid to the persistence and recurrence of the activities. A good example is the conference...
entitled “Asia in the 21st Century: Challenges, Dilemmas, and Perspectives,” which was coordinated by dr hab. Joanna Marszałek-Kawa. In 2013, the conference took place for the seventh time. Each year, the conference is expanding by taking on new challenges and seeing the number of participants rise. Its value is proven not only by the merits of its debate, but also the number of publications and its social reception. This year’s conference saw approximately 300 Polish and foreign academics in attendance.

The fact that this event has been supported by Wydawnictwo Adam Marszałek from the very beginning, as well as the fact that the collaboration culminates in a series of books entitled “Contemporary Asia,” give the conference its exceptional character. Last year’s edition was published prior to this year’s conference. The dominant issues are of a political nature, but other academic disciplines are increasingly being represented. Diplomacy, security, geopolitical potential, superpower, relations with other countries and the EU, economic policy, the system of values, tradition and modernity, administration, local government, and media systems are the key terms that describe the conference and its themes.

One of the newest themes that were present in the debate is the subject of culture and education. Publications on this matter were collected in one volume entitled, “Cultural and Educational Face of the Contemporary Asia.” The panorama of countries (China, Japan, Iran, India, Vietnam, Turkmenistan, and Afghanistan) that were discussed in this volume shows that nearly the entire Asian continent is represented in the work. Equally characteristic is the variety of issues taken on by the authors. It is not difficult to find those reaching the roots of the culture, including, e.g., “Confucius vs. Aristotle: One idea, two legal cultures” by Aleksandra Brodecka-Chamera and Marta Dargas or “The problem of culture and politics in Taoism” by Ewa Kaja. Besides those, there are some essays on classical issues like the social studies of small social groups, which include “The problem of family traditions in the modern transitions of Eastern Asia” by Krzysztof Gawlikowski. There was also a space for greater structures: the image of modern China by Marta Mazurek and the issue of dignity in life in modern Iran by Magdalena Zaborowska. The category of “sensitive issues” includes topics such as Buddhist bio-ethics (Agata Strządała), the bio-politics of China in the context of abortion (Marcin Leźnicki and Aleksandra Lewandowska), and selective abortion in India (Ewa Liszkowska). There was also a space in the volume for the “classics,” like “The Art of War in China,” written by Stefania Skowron-Markowska; Samurai by Kamil Zeidler; and “The Structure of Physical Culture in China” by Maciej Szatkowski. Essays on systemic matters also appear in the publication: communism in India, which is discussed by Weronika Rokicka; mass media in the context of the democ-
ratization of Afghanistan by Magdalena Randall-Schab; and the press system in Turkmenistan, which is analyzed by Jacek Sobczak and Ksenia Kakareko. The publication also includes issues concerning the ethnic minorities; Paweł Górzny describes the Polish Vietnamese; Marta Wesołowska writes about Japanese ancient music; Marcin Lisiecki discusses social policy in Japan; and also Marcin Lisiecki takes on childbirth and funeral rituals in ancient Japan.

This wide range of problems is definitely not covered in the cultural studies field. One should also be very open-minded to consider that all of those issues are within the wider framework of the debate on culture. Nevertheless, a lot of different matters are presented under the aforementioned cultural studies. Education, as an equal title partner of the conference, is slightly omitted. Mirosława Cylkowska-Nowak, who writes about educating minorities in Japan, was the only person to present the literal “faces of contemporary Asia” in the report based on the conference. One can hope that in such a dynamically developing project, the issue of education will soon find its reflection as a separate volume. Education in Asia is reflected both in the original solutions of school education systems and the rich experience within the education of adult members of society. According to F. Znaniencki, education is also connected with the influences of the educating society. The entire educational policy is visible as well: the state’s influences vs. autonomy, competition vs. cooperation, “free” education vs. commercial, etc. Because everything has a cognitive quality, we enrich our knowledge. It is hard not to appreciate the potential application values. We do not necessarily need to base exclusively on proposals that come from the West, especially since its implementation in our environment, and with a significant time gap, does not result in advancement.

A simple presentation of the leading analytical categories in the book shows the complexity of those matters. One can mainly find some identification with political studies. Nevertheless, some other disciplines (educational studies) are also represented. The same could be said about the authors of the essays. Only a few academic authorities in these disciplines participated in the publication. It is the young academics (i.e. those who are still looking for their position in science) that are dominant. Yet, it is the wide range of problems that are covered in the publication that are more important and unique. Next to the classical issues in social sciences, which have been explored for a long and persistent time, there are new problems that were consciously marginalized or tenuously exposed. It is not difficult to notice that, besides original and cognitively valuable texts, there are essays ‘on the subject’ which are based on the derivative sources. The meritorious competences that I posses result in the fact that I can speak in a responsible
way about only some matters; the others should generally follow some standard requirements (leading problem, scientific method, etc.), and the rest I perceive as little known or unknown. However, it is not my intention to prepare a classic review of a published book.

It is particularly important to highlight the fact that the Asian issues confronted in Poland are presented by Polish scientists. For everyone who is working on some particular issues in a professional manner (omitting those who aimed at preparing a short speech for the given conference), it is obvious that consecutive papers are situated on a higher substantial level. A critical perception of the available literature on the subject serves to explore the matter in the best manner. It is important not only to write literature in the English language, but also to publish papers in Asian languages. Equally important are research travels and contacts, not only virtual (i.e. on the Internet), but also a network of the collected face-to-face contacts.

It is a priceless asset – cultural this time – that we are dealing with a venture that is planned for many years into the future. This asset is an academic conference that has taken place, will continue to be organized, and the results of which are systematically published. The mere selection procedure results in a naturally increasing level of expectations and, simultaneously, the number of accidental participants is decreasing. The periodical character of the meetings has resulted in it becoming increasingly reputable and new people becoming interested in participating in a valuable venture. Therefore, the only thing left is to hope that the organizers maintain the determination to shape this original event into one that continues to distinguish itself from other major conferences.

References

Review
Book Review


*Language Teacher Education for a Global Society: A Modular Model for Knowing, Analyzing, Recognizing, Doing and Seeing* is a book of the Routledge ESL and Applied Linguistics Professional series. It is intended primarily for student teachers, practising teachers and teacher educators in the field of language teacher education, and to be a valuable book to provide them a necessary conceptual framework and practical strategies in the new global context, and to help them “become strategic thinkers, exploratory researchers and transformative intellectuals” (p.x).

This book is divided into 7 short chapters, the first and last chapters as the introductory and concluding chapters respectively, other chapters deal with specific aspects of a context-sensitive framework for language teacher education (Kumaravadivelu calls it “a module model”, p.123).

The approach taken in each chapter is to begin with an overview, then to discuss module components or other major points, and finally, to set up a closing with a further reflection and discussion, except the last chapter, plus rapid reader response, reflective tasks and exploratory project(s) for the readers to do.

The Preface states that “KARDS model” is the fruit of the author’s “several years of reflection, review and renewal” about designing a coherent and comprehensive framework for language teacher preparation, and explains that the book will mainly deal with the modular model’s construction and its five constituent modules. The acronym KARDS, standing for five “dynamic verbs”- Knowing, Analyzing, Recognizing, Doing, and Seeing, represents the author’s intention of “designing cyclical,
process-based, transformation-oriented, holistic modules” rather than “designing linear, product-based, transmission-oriented, discrete courses” (pp.ix-x).

Chapter 1 begins by highlighting the need for a cogent, coherent and comprehensive model for second and foreign language (L2) teacher education, and then discusses five inter-connected perspectives that the author argues should guide language teacher education in the global context. Post-national, postmodern, postcolonial perspectives help the reader reflect on the broader historical, political, and sociocultural contexts confronted by language teaching and teacher education. The post-transmission and post-method perspectives emphasize the individual in language teacher education. The author further contends that all these perspectives and the principles of particularity (context sensitivity), practicality (the relationship between theory and practice), and possibility (critical pedagogy that raises sociopolitical consciousness) provide the conceptual underpinnings necessary for designing a model for language teacher education that is sensitive to global and local exigencies, namely, a KARDS model.

Chapter 2 focuses on the first module Knowing, which means more emphasis “on a process of knowing” than “on the body of knowledge” (p.20). After briefly reviewing the definitions for teacher knowledge, the author categorizes it into: professional knowledge (content knowledge produced by experts), procedural knowledge (instructional and classroom management strategies), and personal knowledge (one’s self-reflection on personal identity and beliefs, and sense of plausibility).

Chapter 3 deals with the module Analyzing, which calls for L2 teachers to develop knowledge and skills necessary to analyze and understand learner needs, motivation and autonomy. It points out that on-going economic and cultural globalization and its impacts are changing learner needs and motivational factors and leading to a “paradigmatic shift” in the L2 motivation research agenda that L2 researchers are turning to recent developments in cognitive psychology, to postmodern thoughts, and to critical pedagogy. It also considers the implications of learner autonomy in the classroom, especially liberation autonomy, and explains how these changes might shape L2 teaching and teacher education.

The discussion of the module Recognizing in Chapter 4 is based on “we cannot separate the teacher from teaching” (p.55), and focuses on the needs for language teachers, who are moral agents, to recognize and renew the identities, beliefs, and values that they bring into the practice of everyday teaching, namely, “teaching Self”. It argues that teachers need to learn to use critical auto-ethnography to interrogate their teaching Self, and to draw a self-portrait connecting the personal, the professional, the pedagogical, and the political.
Chapter 5 focuses on the Doing part of teacher’s pedagogical practice. It outlines the importance of doing if one is to be an effective language teacher and transformative intellectual, and discusses its intertwined components in the language classroom: teaching (marked by maximizing learning opportunities and mentoring personal transformation), theorizing (deriving a personal theory of practice through classroom-based inquiry), and dialogizing (critical conversations with informed interlocutors and with one’s evolving teaching Self).

The final module, Seeing, discussed in Chapter 6, begins with the clarification of the concept of seeing in the context of learning and teaching and its connection with the language classroom, and then discusses classroom activities from three inter-related perspectives: learner perspective, teacher perspective, and observer perspective. The author encourages teacher educators and student teachers to seeing-as and seeing-that rather than seeing-in (superficially looking) what happens in the classroom, which means going beyond “immediate sensory perception” (p.100) to interpret the dynamic relationship between seeing and knowing in a critical approach.

Chapter 7 offers a summary of the modular model. It concludes that “the model presents a dynamic network of modules that interact in a complex way” (p.125), and has the potential to help present and prospective L2 teachers to meet the challenges of language learning and teaching needs and wants and situations within a globalizing world.

The book offers in-depth discussions of an innovative model for language teacher education, which aims at preparing more effective L2 teachers who are sensitive to linguistic, cultural, and educational demands of the global society as well as local exigencies. Following the tenets of critical theory and critical pedagogy, the main body of the book, which deals with the model, is organized by considering a series of questions facing L2 teachers, including prospective and practising teachers and teacher educators: (a) how to build a viable knowledge base of language teaching; (b) how to explore learners’ needs, motivation, and autonomy; (c) how to recognize their own identities, beliefs, and values; (d) how to do the right kind of pedagogical practice, including teaching, theorizing, and dialogizing; and (e) how to monitor their own teaching acts by taking into account learner, teacher, and observer perspectives on classroom events and activities. Obviously, it aims at providing a scaffold for teachers to build a holistic understanding of what happens in the language classroom. In addition, the emphasis of critical approach in the book not only helps the reader’s reflection and action but also forms its major feature.

The book details the issues of language teaching and teacher education, such as language teacher learning and teacher cognition, language teaching methods and
strategies, etc. Although no chapter or section is called “the knowledge base of language teacher education,” the discussions about this issue are inevitable throughout the book. Please note two different but relevant concepts: “the knowledge base of language teaching” and “the knowledge base of L2 teacher education”. The former is “what language teaching involves and what language teachers need to know and be able to do in order to educate language learners effectively” (Graves, 2009); the latter refers to what it is that language teachers need to know and understand to be effective teachers and how that knowledge is incorporated into language teacher education (Tedick, 2005). Freeman and Johnson (1998) say that “language teacher education is primarily concerned with teachers as learners of language teaching rather than with students as learners of language” (p.407). It is easy to find that the author has the same point of view; however, there is not much discussion about the challenge with language teaching in the book, that is, the teacher uses language to teach language.

The book is handy and well designed, with appropriate model diagrams as illustrations. One can read it quickly because of the shortness of each chapter and the style of presentation. Overall, this book presents a useful contribution to the field, integrating research and practice to highlight useful conceptual frameworks, guidelines and practical strategies for conceiving and construction of context-specific language teacher education programs.

References

